



Test Report issued under the responsibility of



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| <b>TEST REPORT</b><br><b>IEC 60335-2-40</b><br><b>Safety of household and similar electrical appliances</b><br><b>Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers</b>   |  |
| Report Reference No. ....  | 236145   |
| Date of issue.....   | 2013-04-26   |
| Total number of pages .....  | 97 pages   |
| CB/CCA Testing Laboratory Name :   | Nemko AS<br>Address..... Gaustadalléen 30, NO - 0373 Oslo, Norway<br>Phone: (+47) 22 96 03 30  |
| Applicant's name.....  | Samsung Electronics Co., Ltd.<br>Address..... Digital Air-solutions Business Team,<br>129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,<br>443-742 Korea, Republic of  |
| Test specification:  |  |
| Standard .....   | <input checked="" type="checkbox"/> IEC 60335-2-40:2002 (4. Edition) + A1:2005 (incl. Corr.1:2006) + A2:2005 with<br><input checked="" type="checkbox"/> IEC 60335-1:2001 (4. Edition) (incl. Corr.1:2002) + A1:2004 (incl. Corr.1:2005) + A2:2006 (incl. Corr.1:2006)<br><input type="checkbox"/> IEC 62233:2005 (1. Edition) |
| Test procedure .....   | CB   |
| Non-standard test method.....  | N/A  |
| Test Report Form No. ....  | IEC60335_2_40F   |
| Test Report Form(s) Originator.....  | VDE Testing and Certification Institute  |
| Master TRF .....   | Dated 2009-11  |
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**Test item description .....** **Air-conditioner**

**Trade Mark .....**





**Manufacturer .....** Same as applicant.  
 Samsung Electronics Co., Ltd.  
 Digital Air-solutions Business Team,  
 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,  
 443-742 Korea, Republic of

**Model/Type reference .....** (Indoor unit)  
 a) AM140FNHDEH;  
 b) AM128FNHDEH;  
 c) AM112FNHDEH

**Ratings.....** a) 3.0 A 385 W 220 – 240 V~ 50 Hz  
 b) 2.58 A 333 W 220 – 240 V~ 50 Hz  
 c) 2.35 A 305 W 220 – 240 V~ 50 Hz

**Additional information.....** Cl. I, Built-in duct type, Climate class T1 or T3, Indoor unit only.  
 Optional accessory product;  
 - Drain pump: model, MDP-E075SEE3D

|   |   |
|---|---|
| <b>Testing procedure and testing location:</b>  |   |
| <input type="checkbox"/> <b>CB/CCA Testing Laboratory:</b><br>Testing location/ address ..... :   | N/A   |
| <input type="checkbox"/> <b>Associated CB Laboratory:</b><br>Testing location/ address ..... :  | N/A   |
| <div style="display: flex; justify-content: space-between;"> <div> Tested by (name + signature) ..... :<br/> Approved by (+ signature) ..... : </div> <div style="width: 40%;"></div> </div>                    |   |
| <input checked="" type="checkbox"/> <b>Testing procedure: TMP</b><br>Tested by (name + signature) ..... :<br><br>Approved by (+ signature) ..... :<br><br>Testing location/ address ..... :                     | <div style="display: flex; justify-content: space-between;"> <div> Jae Hyeon, Kim<br/><br/> Jae Hong, Park </div> <div style="width: 40%; text-align: right;"> <br/>  </div> </div> <p>Samsung Electronics Co., Ltd.<br/> Digital Air-solutions Business Team,<br/> 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,<br/> 443-742 Korea, Republic of</p> |
| <input type="checkbox"/> <b>Testing procedure: WMT</b><br>Tested by (name + signature) ..... :<br>Witnessed by (+ signature) ..... :<br>Approved by (+ signature) ..... :<br>Testing location/ address ..... :  | N/A   |
| <input type="checkbox"/> <b>Testing procedure: SMT</b><br>Tested by (name + signature) ..... :<br>Approved by (+ signature) ..... :<br>Supervised by (+ signature) ..... :<br>Testing location/ address ..... : | N/A   |
| <input type="checkbox"/> <b>Testing procedure: RMT</b><br>Tested by (name + signature) ..... :<br>Approved by (+ signature) ..... :<br>Supervised by (+ signature) ..... :<br>Testing location/ address ..... : | N/A   |

**Summary of testing:**
**Tests performed (name of test and test clause):**

- Clause 7: Marking and instructions
- Clause 8: Protection against access to live parts
- Clause 10: Power input and current
- Clause 11: Heating
- Clause 13: Leakage current and electric strength at operating temperature
- Clause 15: Moisture resistance
- Clause 16: Leakage current and electric strength
- Clause 19: Abnormal operation
- Clause 20: Stability and mechanical hazards
- Clause 21: Mechanical strength
- Clause 22: Construction
- Clause 23: Internal wiring
- Clause 24: Components
- Clause 25: Supply connection and external flexible cord
- Clause 26: Terminals for external conductors
- Clause 27: Provision for earthing
- Clause 28: Screws and connections
- Clause 29: Clearances, creepage distances and solid insulation
- Clause 30: Resistance to heat and fire
- Annex E: Needle flame test
- Annex N: Proof tracking test
- Annex EE: Pressure test

**Testing location:**

Samsung Electronics Co., Ltd.  
Digital Air-solutions Business Team,  
129, Samsung-ro, Yeongtong-gu, Suwon-si,  
Gyeonggi-do, 443-742 Korea, Republic of

**1. Safety test conditions;**

Normal temperature condition was considered as following based on ISO 13253 and ISO 15042;

- For climatic class T1, an appliance was installed with the indoor side subjected to 27°C and the outdoor side subjected to 35°C for cooling function.
- For climatic class T3, an appliance was installed with the indoor side subjected to 29°C and the outdoor side subjected to 46°C for cooling function.
- An appliance was installed with the indoor side subjected to 20°C and the outdoor side subjected to 7°C for heating function.

**2. EMF test conditions;**

- 1) Measuring distance (r1): 30 cm
- 2) Sensor locations: Around
- 3) Operating conditions: Continuously.  
Cooling mode: Lowest cooling, Heating mode: Highest heating

3. In this test report, the model AM140FNHDEH (indoor unit, built-in duct type) was mainly tested and evaluated as a representative by connecting it with the model AM100FXVAGH (outdoor unit).

4. Heat exchanger of this appliance was tested and evaluated with the refrigerant R410A only in this test report.

5. The appliance shall be provided with a certified supply cord and interconnection cords complying with the national regulations of the countries in which the appliance is to be sold. The supply cord and interconnection cords were evaluated just for the reference in this test report.

**Summary of testing:**

**6. This test report replaces the previous test report no. 235559 by following;**

**- Revision on the critical component list.  
Refer to the Table 24.1 in main test report.**

7. Information about other standards/ documents considered;

- 1) ISO 5149 (1993, edition:1);  
Mechanical refrigerating systems used for cooling and heating – Safety requirements
- 2) ISO 13253 (2011, edition:2);  
Ducted air-conditioners and air-to-air heat pumps -- Testing and rating for performance
- 3) ISO 15042 (2011, edition:1);  
Multiple split-system air-conditioners and air-to-air heat pumps -- Testing and rating for performance


**Summary of compliance with National Differences:**

- 1) All CENELEC members as listed in the following standards;  
EN 60335-2-40:2003 +A11:2004 +A12: 2005 +A1:2006 +A2:2009  
EN 60335-1:2002 +A11:2004 +A1:2004 +A12:2006 +A2:2006 +A13:2008  
EN 62233:2008
- 2) All CB members as listed in the IECEE Online Bulletin. All National differences listed in the CB Bulletin are covered by the National Differences and Group Differences for Europe (Common Modifications, Special National Conditions).
- 3) The product fulfils the requirements of the following standards;
  - ☒ IEC 60335-2-40: 2002 (Fourth edition) +A1:2005 +A2:2005
  - ☒ IEC 60335-1:2001 (Fourth ed.) (incl. Corr.1:2002) +A1:2004 +A2:2006 (incl. Corr. 1:2006)
  - ☒ EN 60335-2-40:2003 +A11:2004 +A12: 2005 +A1:2006 +A2:2009
  - ☒ EN 60335-1:2002 +A11:2004 +A1:2004 +A12:2006 +A2:2006 +A13:2008
  - ☒ EN 62233:2008

**Copy of marking plate: 1 / 3**

Model: AM140FNHDEH (Indoor unit)




The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.




AIR CONDITIONER/AIRE ACONDICIONADO/  
CLIMATISEUR/CONDIZIONATORE/AR-CONDICIONDO PARA SALA/  
KLIMAANLAGE/Кондиционер воздуха


|   |                                  |
|---|----------------------------------|
| MODEL NAME / NOMBRE DEL MODELO /<br>Modèle / MODELLO / MODELO /<br>Modellbezeichnung / НАЗВАНИЕ МОДЕЛИ  | AM140FNHDEH                      |
| CAPACITY (COOL/HEAT)<br>CAPACIDAD (FRIO/CALOR)<br>CAPACITE (FROID/CHAUD)<br>CAPACITA (FRESCO/CALDO)<br>CAPACIDADE (FRIO/CALOR)<br>Leistung (KUHLEN/HEIZEN)<br>ПРОИЗВОДИТЕЛЬНОСТЬ<br>(ОХЛАЖДЕНИЕ/НАГРЕВ)           | 14.0 kW / 16.0 kW                |
| RATED VOLTAGE & FREQUENCY<br>FRECUENCIA Y TENSION NOMINALES<br>Tension & Fréquence<br>TENSIONE E FREQUENZA NOMINALI<br>FREQUÊNCIA/TENSÃO NOMINAL<br>NENNSPANNUNG UND FREQUENZ<br>НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ И ЧАСТОТА | 220 - 240 V ~, 50 Hz             |
| RATED CURRENT / CORRIENTE NOMINAL /<br>COURANT NOMINAL / CORRENTE NOMINALE /<br>CORRENTE NOMINAL / Nennstrom /<br>НОМИНАЛЬНЫЙ ТОК   | (C/H)(F/C)(K/H)<br>3.0 A / 3.0 A |
| RATED POWER INPUT / POTENCIA NOMINAL /<br>PUISSANCE NOMINALE /<br>POTENZA ASSORBITA NOMINALE /<br>ENTRADA DE POTÊNCIA NOMINAL / Nennleistung /<br>НОМИНАЛЬНАЯ ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ                               | (C/H)(F/C)(K/H)<br>385 W / 385 W |
| CLIMATE CLASS/CLASE CLIMÁTICA/<br>Classe Énergétique/CLASSE CLIMATICA/<br>CLASSE CLIMATICA/Klima Klasse/ТИП КЛИМАТА   | T 1                              |
| ANNÉE DE PRODUCTION/ANNO DI FABBRICAZIONE /<br>PRODUCTION YEAR / AÑO DE PRODUCCIÓN /<br>ANO DE FABRICO/Produktionsjahr/ГОД ИЗГОТОВЛЕНИЯ   | 2013                             |

**SAMSUNG** ELECTRONICS CO., LTD.  
501# Suhong East Road, Industrial Park,  
Suzhou, Jiangsu, China  
Made in China  
Сделано в Китае  
DESIGNED BY SAMSUNG











DB68-03612Z-0



AIR CONDITIONER / klima / Кондиционер воздуха / Кондиционер  
/ Ау а ко ндиционері / PENYEJUK UDARA / Climatiseur / جهاز تكييف الهواء

|   |                               |         |
|---|-------------------------------|---------|
| CLIMATE CLASS / iklim sınıfı / ТИП КЛИМАТА /<br>Климатический класс / Климат классы / KELAS IKLIM /<br>Classe Énergétique /<br>نوع المناخ   | T1                            | T3      |
| MODEL NAME / model adı / НАЗВАНИЕ МОДЕЛИ /<br>Model / Модель / Модел / Модел / MODEL / Modèle /<br>اسم الطراز   | AM140FNHDEH                   |         |
| MODEL CODE / MODEL KODU / КОД МОДЕЛИ /<br>КОД МОДЕЛИ / УЛПТ КОДЫ / CODE MODEL /<br>CODE DU MODELE /<br>رمز الطراز   | AM140FNHDEH/TK                |         |
| RATED VOLTAGE & FREQUENCY /<br>anna voltajı/frekansı / НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ<br>И ЧАСТОТА / Номінальна напруга та частота /<br>Құат көзінің кернеуі мен жиілігі /<br>TEGANGAN LISTRIK & FREKUENSI /<br>Tension & Fréquence /<br>مستويات الجهد الكهربائي والتردد المقدر | 220 - 240 V ~ 50 Hz           |         |
| RATED CAPACITY / kapasite /<br>ПРОИЗВОДИТЕЛЬНОСТЬ / Потужність /<br>Қуаты / KAPASITAS PENDINGIN /<br>CAPACITE /<br>القدرة   | COOLING<br>التبريد            | 14.0 kW |
|   | HEATING (H1)<br>التدفئة (H1)  | 12.5 kW |
|   |                               | 16.0 kW |
| RATED CURRENT / anna akımı /<br>НОМИНАЛЬНЫЙ ТОК / Номінальний струм /<br>Ток күші / ARUS TETAP /<br>COURANT NOMINAL /<br>التيار المقدر  | COOLING<br>التبريد            | 3.0 A   |
|   | HEATING (H1)<br>التدفئة (H1)  | 3.0 A   |
|   |                               | 3.0 A   |
| RATED POWER INPUT / nominal güç girişi / НОМИНАЛЬНАЯ<br>ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ /<br>Номінальна потужність / Ток тұтынуы /<br>DAYA INPUT TETAP /<br>PUISSANCE NOMINALE / الطاقة المدفوعة /<br>نسبة طاقة التدفئة / معدل الأداء   | COOLING<br>التبريد            | 385 W   |
|   | HEATING (H1)<br>التدفئة (H1)  | 385 W   |
|   |                               | 385 W   |
| EER / COP   | COOLING<br>التبريد            | -       |
|   | HEATING (H1)<br>التدفئة (H1)  | -       |
|   |                               | -       |
| DESIGN PRESSURE<br>الضغط المصمم   | HIGH: 4.1 MPa<br>LOW: 2.2 MPa |         |
| Max. Operation Pressure (Heat exchanger)<br>الحد الأقصى ضغط التشغيل (استبدال التسخين)   | 4.1 MPa                       |         |
| REFRIGERANT /<br>غاز التبريد  | R-410A                        |         |
| PRODUCTION DATE / uretim tarihi / Дата производства /<br>Дата виробництва / Өндүрілген күні / DIPRODUKSI /<br>DATE DE PRODUCTION /<br>تاريخ الإنتاج   | 2013                          |         |

■ COOLING / soğutma / ОХЛАЖДЕНИЕ / Охолодження / Сууту / PENDINGINAN / Refroidir / التبريد  
■ HEATING / ısıtma / ОБОГРЕВ / Обігрів / Жылыту / PEMAANASAN / Rechauffer / التدفئة  
MADE IN KOREA / Korede Üretilmiştir / СДЕЛАНО В КОРЕЕ / Вироблено в Кореї / Корейяда жасалган  
DIBUAT DI KOREA / Fabriqué en Corée / صنع في كوريا


AB57 KZ.O.02.0072 166



**Copy of marking plate: 2 / 3**

Model: AM128FNHDEH (Indoor unit)




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AIR CONDITIONER/AIRE ACONDICIONADO/  
CLIMATISEUR/CONDIZIONATORE/AR-CONDICIONDO PARA SALA/  
KLIMAANLAGE/Кондиционер воздуха


|   |                                    |
|---|------------------------------------|
| MODEL NAME / NOMBRE DEL MODELO /<br>Modèle / MODELLO / MODELO /<br>Modellbezeichnung / НАЗВАНИЕ МОДЕЛИ  | AM128FNHDEH                        |
| CAPACITY (COOL/HEAT)<br>CAPACIDAD (FRIO/CALOR)<br>CAPACITE (FROID/CHAUD)<br>CAPACITA (FRESCO/CALDO)<br>CAPACIDADE (FRIO/CALOR)<br>Leistung (KUHLEN/HEIZEN)<br>ПРОИЗВОДИТЕЛЬНОСТЬ<br>(ОХЛАЖДЕНИЕ/НАГРЕВ)           | 12.8 kW / 13.8 kW                  |
| RATED VOLTAGE & FREQUENCY<br>FRECUENCIA Y TENSION NOMINALES<br>Tension & Fréquence<br>TENSIONE E FREQUENZA NOMINALI<br>FREQUÊNCIA/TENSÃO NOMINAL<br>NENNSPANNUNG UND FREQUENZ<br>НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ И ЧАСТОТА | 220 - 240 V ~, 50 Hz               |
| RATED CURRENT / CORRIENTE NOMINAL /<br>COURANT NOMINAL / CORRENTE NOMINALE /<br>CORRENTE NOMINAL / Nennstrom /<br>НОМИНАЛЬНЫЙ ТОК   | (C/H)(F/C)(K/H)<br>2.58 A / 2.58 A |
| RATED POWER INPUT / POTENCIA NOMINAL /<br>PUISANCE NOMINALE /<br>POTENZA ASSORBITA NOMINALE /<br>ENTRADA DE POTÊNCIA NOMINAL / Nennleistung /<br>НОМИНАЛЬНАЯ ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ                                | (C/H)(F/C)(K/H)<br>333 W / 333 W   |
| CLIMATE CLASS/CLASE CLIMÁTICA/<br>Classe Énergétique/CLASSE CLIMATICA/<br>CLASSE CLIMATICA/Klima Klasse/ТИП КЛИМАТА   | T 1                                |
| ANNÉE DE PRODUCTION/ANNO DI FABBRICAZIONE /<br>PRODUCTION YEAR / AÑO DE PRODUCCIÓN /<br>ANO DE FABRICO/Produktionsjahr/ГОД ИЗГОТОВЛЕНИЯ   | 2013                               |

**SAMSUNG** ELECTRONICS CO., LTD.  
501# Suhong East Road, Industrial Park,  
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Сделано в Китае  
DESIGNED BY SAMSUNG



DB68-03612Y-0










AIR CONDITIONER / klima / Кондиционер воздуха / Кондиціонер  
/ Ay a ko ndiçioneeri / PENYEJUK UDARA / Climatiseur / جهاز تكييف الهواء

|   |                               |         |
|---|-------------------------------|---------|
| CLIMATE CLASS / iklim sınıfı / ТИП КЛИМАТА /<br>Климатический класс / Климат классы / KELAS IKLIM /<br>Classe Énergétique /   | T1                            | T3      |
| MODEL NAME / model adı / НАЗВАНИЕ МОДЕЛИ /<br>Modèle / Модель / Модельдің атауы / MODEL / Modèle /<br>اسم الطراز  | AM128FNHDEH                   |         |
| MODEL CODE / MODEL KODU / КОД МОДЕЛИ /<br>КОД МОДЕЛИ / УПІ КОДЫ / CODE MODEL /<br>CODE DU MODELE /<br>رمز الطراز  | AM128FNHDEH/TK                |         |
| RATED VOLTAGE & FREQUENCY /<br>anna voltajı/frekansı / НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ<br>И ЧАСТОТА / Номінальна напруга та частота /<br>Қуат көзінің кернеуі мен жиілігі /<br>TEGANGAN LISTRIK & FREKUENSI /<br>Tension & Fréquence /<br>مستويات الجهد الكهربائي والتردد المقدر | 220 - 240 V ~ 50 Hz           |         |
| RATED CAPACITY / kapasite /<br>ПРОИЗВОДИТЕЛЬНОСТЬ / Потужність /<br>Қуаты / KAPASITAS PENDINGIN /<br>CAPACITE /<br>التففة (H1)  | COOLING<br>التبريد            | 12.8 kW |
|   | HEATING (H1)<br>التففة (H1)   | 11.2 kW |
|   |                               | 13.8 kW |
| RATED CURRENT / anna akımı /<br>НОМИНАЛЬНЫЙ ТОК / Номінальний<br>струм / Ток күші / ARUS TETAP /<br>COURANT NOMINAL /<br>التنوير المقدر   | COOLING<br>التبريد            | 2.58 A  |
|   | HEATING (H1)<br>التففة (H1)   | 2.58 A  |
|   |                               | 2.58 A  |
| RATED POWER INPUT /<br>nominal guc girişi / НОМИНАЛЬНАЯ<br>ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ /<br>Номінальна потужність / Ток тұтынушы /<br>DAYA INPUT TETAP /<br>PUISANCE NOMINALE / الطاقة المدفوعة   | COOLING<br>التبريد            | 333 W   |
|   | HEATING (H1)<br>التففة (H1)   | 333 W   |
|   |                               | 333 W   |
| EER / COP   | COOLING<br>التبريد            | -       |
|   | HEATING (H1)<br>التففة (H1)   | -       |
|   |                               | -       |
| DESIGN PRESSURE   | HIGH: 4.1 MPa<br>LOW: 2.2 MPa |         |
| Max. Operation Pressure (Heat exchanger)  | 4.1 MPa                       |         |
| REFRIGERANT /<br>غاز التبريد  | R-410A                        |         |
| PRODUCTION DATE / uretim tarihi / Дата производства /<br>Дата виробництва / Эндрірінен күні / DIPRODUKSI /<br>DATE DE PRODUCTION /<br>تاريخ الإنتاج   | 2013                          |         |

■ COOLING / soğutma / ОХЛАЖДЕНИЕ / Охолодження / Сууту / PENDINGINAN / Refroidir / التبريد  
■ HEATING / ısıtma / ОБОГРЕВ / Обігрів / Жылыту / REHMANASAN / Rechauffer / التثفة


MADE IN KOREA / Korede Üretilmiştir / СДЕЛАНО В КОРЕЕ / Вироблено в Корей / Корейяда жасалған  
DIBUAT DI KOREA / Fabriqué en Corée / صنع في كوريا

Copy of marking plate: 3 / 3

Model: AM112FNHDEH (Indoor unit)




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AIR CONDITIONER/AIRE ACONDICIONADO/  
CLIMATISEUR/CONDIZIONATORE/AR-CONDICIONDO PARA SALA/  
KLIMAANLAGE/Кондиционер воздуха


|   |                                    |
|---|------------------------------------|
| MODEL NAME / NOMBRE DEL MODELO /<br>Modèle / MODELLO / MODELO /<br>Modellbezeichnung / НАЗВАНИЕ МОДЕЛИ  | AM112FNHDEH                        |
| CAPACITY (COOL/HEAT)<br>CAPACIDAD (FRIO/CALOR)<br>CAPACITE (FROID/CHAUD)<br>CAPACITA (FRESCO/CALDO)<br>CAPACIDADE (FRIO/CALOR)<br>Leistung (KUHLEN/HEIZEN)<br>ПРОИЗВОДИТЕЛЬНОСТЬ<br>(ОХЛАЖДЕНИЕ/НАГРЕВ)           | 11.2 kW / 12.5 kW                  |
| RATED VOLTAGE & FREQUENCY<br>FRECUENCIA Y TENSION NOMINALES<br>Tension & Fréquence<br>TENSIONE E FREQUENZA NOMINALI<br>FREQUÊNCIA/TENSÃO NOMINAL<br>NENNSPANNUNG UND FREQUENZ<br>НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ И ЧАСТОТА | 220 - 240 V ~, 50 Hz               |
| RATED CURRENT / CORRIENTE NOMINAL /<br>COURANT NOMINAL / CORRENTE NOMINALE /<br>CORRENTE NOMINAL / Nennstrom /<br>НОМИНАЛЬНЫЙ ТОК   | (C/H)(F/C)(K/H)<br>2.35 A / 2.35 A |
| RATED POWER INPUT / POTENCIA NOMINAL /<br>PUISSANCE NOMINALE /<br>POTENZA ASSORBITA NOMINALE /<br>ENTRADA DE POTÊNCIA NOMINAL / Nennleistung /<br>НОМИНАЛЬНАЯ ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ                               | (C/H)(F/C)(K/H)<br>305 W / 305 W   |
| CLIMATE CLASS/CLASE CLIMÁTICA/<br>Classe Énergétique/CLASSE CLIMATICA/<br>CLASSE CLIMATICA/Klima Klasse/ТИП КЛИМАТА   | T 1                                |
| ANNÉE DE PRODUCTION/ANNO DI FABBRICAZIONE /<br>PRODUCTION YEAR / AÑO DE PRODUCCIÓN /<br>ANO DE FABRICO/Produktionsjahr/ГОД ИЗГОТОВЛЕНИЯ   | 2013                               |

**SAMSUNG** ELECTRONICS CO., LTD.  
501# Suhong East Road, Industrial Park,  
Suzhou, Jiangsu, China  
Made in China  
Сделано в Китае  
DESIGNED BY SAMSUNG



DB68-03612X-0










AIR CONDITIONER / klima / Кондиционер воздуха / Кондиционер  
/ Ay a ko ndiçioneeri / PENYEJUK UDARA / Climatiseur / جهاز تكييف الهواء

|  |                               |         |
|--|-------------------------------|---------|
| CLIMATE CLASS / klim sinifi / ТИП КЛИМАТА /<br>Климатический класс / Климат классы / KELAS IKLIM /<br>Classe Énergétique / نوع المناخ  | T1                            | T3      |
| MODEL NAME / model adı / НАЗВАНИЕ МОДЕЛИ /<br>Modèle / Модель / Моделдің атауы / MODEL / Modèle /<br>اسم الطراز  | AM112FNHDEH                   |         |
| MODEL CODE / MODEL KODU / КОД МОДЕЛИ /<br>КОД МОДЕЛИ / УЛПІ КОДЫ / CODE MODEL /<br>CODE DU MODELE / رمز الطراز   | AM112FNHDEH/TK                |         |
| RATED VOLTAGE & FREQUENCY /<br>anna voltajı & frekansı / НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ<br>И ЧАСТОТА / Номінальна напруга та частота /<br>Қуат көзінің кернеуі мен жиілігі /<br>TEGANGAN LISTRIK & FREKUENSI /<br>Tension & Fréquence / مستويات الجهد الكهربائي والتردد المقدر | 220 - 240 V ~ 50 Hz           |         |
| RATED CAPACITY / kapasite /<br>ПРОИЗВОДИТЕЛЬНОСТЬ / Потужність /<br>Қуаты / KARASITAS PENDINGIN /<br>CAPACITE / القدرة   | COOLING / التبريد             | 11.2 kW |
|  | HEATING (H1) / التدفئة (H1)   | 12.5 kW |
| RATED CURRENT / anna akımı /<br>НОМИНАЛЬНЫЙ ТОК / Номінальний<br>струм / Ток күші / ARUS TETAP /<br>COURANT NOMINAL / التيار المقدر  | COOLING / التبريد             | 2.35 A  |
|  | HEATING (H1) / التدفئة (H1)   | 2.35 A  |
| RATED POWER INPUT /<br>nominal guc girişi / НОМИНАЛЬНАЯ<br>ПОТРЕБЛЯЕМАЯ МОЩНОСТЬ /<br>Номінальна потужність / Ток тұтынушы /<br>DAYA INPUT TETAP /<br>PUISSANCE NOMINALE / الطاقة المقدر امداد   | COOLING / التبريد             | 305 W   |
|  | HEATING (H1) / التدفئة (H1)   | 305 W   |
| EER / COP  | COOLING / التبريد             | -       |
|  | HEATING (H1) / التدفئة (H1)   | -       |
| DESIGN PRESSURE  | HIGH: 4.1 MPa<br>LOW: 2.2 MPa |         |
| Max. Operation Pressure (Heat exchanger)   | 4.1 MPa                       |         |
| REFRIGERANT /<br>غاز التبريد   | R-410A                        |         |
| PRODUCTION DATE / uretim tarihi / Дата производства /<br>Дата виробництва / Öndirilen күні / DIPRODUKSI /<br>DATE OF PRODUCTION / تاريخ الإنتاج  | 2013                          |         |

■ COOLING / soğutma / ОХЛАЖДЕНИЕ / Охолодження / Сууту / PENDINGIN / Refroidir / التبريد  
■ HEATING / ısıtma / ОБОГРЕВ / Обігрів / Жылыту / PEMANASAN / Rechauffer / التدفئة

MADE IN KOREA / Korede Üretilmiştir / СДЕЛАНО В КОРЕЕ / Вироблено в Кореї / Кореяда жасалған  
DIBUAT DI KOREA / Fabriqué en Corée / صنع في كوريا



**Name and address of production-sites (Factories):**

Factories are introduced as following;

| No.        | Address   |
|------------|---|
| Factory 1: | SUZHOU SAMSUNG ELECTRONICS CO., LTD.<br>501, Suhong East Road, Suzhou City, Jiangsu, 215021 China   |
| Factory 2: | SUZHOU SAMSUNG ELECTRONICS CO., LTD.<br>218 Jiepu Road, Industry Park, Suzhou City, Jiangsu, China  |
| Factory 3: | SAMSUNG ELECTRONICS CO., LTD.<br>107, Hanamsandan 6beon-ro, Gwangsan-gu, Gwangju-si,<br>506-723, Korea, Republic of                       |
| Factory 4: | THAI SAMSUNG ELECTRONICS CO., LTD.<br>313 Moo 1 Sukhaphiban 8 Rd.,<br>Sriracha Industry Park, T.Bung, A.Sriracha Chonburi, 20230 Thailand |
| Factory 5: | HANCHANG CO., LTD.<br>22, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea, Republic of  |

**List of attachments:**

1. Attachment 1 (13 pages):

Attachment report to the IEC 60335-2-40 for European Group Differences and National Differences;

|                              |                      |
|------------------------------|----------------------|
| Attachment Form No. .... :   | EU_GD_IEC60335_2_40F |
| Attachment Originator..... : | VDE                  |
| Master Attachment..... :     | 2009-11              |

2. Attachment 2 (4 pages):

National Difference of Australia (AU) in the IECEE Online Bulletin. (<http://www.iecee.org>)

| No. | IEC standard                              | National standard reference  |
|-----|---|--|
| 1   | IEC 60335-1 (Fourth edition); am1; am2    | AS/NZS 60335.1: 2002<br>Last modification: 2010-04-19                |
| 2   | IEC 60335-2-40 (Fourth edition); am1; am2 | AS/NZS 60335.2.40: 2006<br>No national deviation for Australia (AU). |

3. Attachment 3 (4 pages):

Schematic wiring/ Circuit diagram.

4. Attachment 4 (8 pages):


Photos of appliance.

|   |   |
|---|---|
| <b>Test item particulars</b> .....  | <b>Air-conditioner</b>                            |
| Classification of installation and use .....  | Fixed / Stationary appliance / Built-in duct type |
| Supply Connection .....   | Type Y attachment                                 |
| .....   |   |
| .....   |   |
| <b>Possible test case verdicts:</b>   |   |
| - test case does not apply to the test object .....   | N/A   |
| - test object does meet the requirement .....   | P (Pass)  |
| - test object does not meet the requirement .....   | F (Fail)  |
| <b>Testing</b> .....  |   |
| Date of receipt of test item .....  | 2013-04-15  |
| Date (s) of performance of tests .....  | 2013-04-16 to 2013-04-25                          |
| <b>General remarks:</b>   |   |
| <p>The test results presented in this report relate only to the object tested.<br/> This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(See Enclosure #)" refers to additional information appended to the report.<br/> "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p>  |   |
| <b>General product information:</b>   |   |
| <p>1) This test report is for the models of indoor unit as following;<br/> a) AM140FNHDEH;      b) AM128FNHDEH;      c) AM112FNHDEH</p> <p>2) The variant models, AM128FNHDEH; AM112FNHDEH are same as the model AM140FNHDEH just except for the electrical rating by the difference of outdoor unit which is connected with indoor unit.</p> <p>3) Each model has different rated cooling/ heating capacity for the outdoor unit which is combined with the indoor unit.</p> <p>4) This appliance is not considered having any IP degrees, i.e. IPX0.</p> <p>5) This appliance is not intended to be installed where accessible to the general public, which is intended to be maintained by qualified service personnel and located at a level not less than 2,5m.</p> <p>6) This test report is just for the indoor unit, and the indoor unit/ outdoor unit shall be installed by a service agent or similarly qualified persons with an end user's preference with the combination specified by manufacturer.</p> |   |

| IEC 60335-2-40 |  |   |         |
|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
| <b>5</b>       | <b>GENERAL CONDITIONS FOR THE TESTS</b>  |   | —       |
|                | Tests performed according to cl. 5, e.g. nature of supply, sequence of testing, etc.   | All the tests are conducted according to this standard.                               | P       |
| 5.2            | If the test of annex D has to be carried out, an additional appliance may be used (IEC 60335-1/A1)   | Not applicable.   | N/A     |
|                | Tests of clause 21 carried out on separate samples. Tests of clauses 11, 19 and 21 require pressure measurements made at various points in refrigerating system (IEC 60335-2-40/A1)  | Performed according to the requirement.   | P       |
|                | At least one additional specially prepared sample required for tests of annex FF (Leak simulation tests) (IEC 60335-2-40/A1)   |   | P       |
|                | Temperatures on refrigerant piping measured during test of clause 11 (IEC 60335-2-40/A1)   | Tested as this clause.  | P       |
| 5.3            | The tests of clause 14 and 21.2 and 22.24 are carried out after the tests of clause 29 (IEC 60335-1/A1)  | Not applicable.   | N/A     |
| 5.6            | Appropriate controls rendered inoperative during test (IEC 60335-2-40)   | Tested as this clause.  | P       |
| 5.7            | Tests of clauses 10 and 11 carried out under most severe operating conditions within operating temperature range specified by manufacturer. Annex AA provide examples of such temperature conditions (IEC 60335-2-40)  | Annex AA: A7 A20.<br>Also considered ISO 13253 and ISO 15042.                         | P       |
| 5.10           | For split-package units, refrigerant lines installed in accordance with installation instructions (IEC 60335-2-40)   | Provide with indoor unit and outdoor unit in separate. Installed as its instructions. | P       |
|                | Refrigerant line length is maximum length stated in installation instructions or (IEC 60335-2-40)  |   | N/A     |
|                | 7,5 m, whichever is shorter (IEC 60335-2-40)   | 7,5 m   | P       |
|                | Thermal insulation of refrigerant lines applied in accordance with installation instructions (IEC 60335-2-40)  | Applied as instructions.  | P       |
| 5.14           | NOTE: Guidance is given in annex P for enhanced requirements that may be used to ensure an acceptable level of protection against electrical and thermal hazards for particular types of appliances used in an installation without a protective earthing conductor in countries that have warm damp equable climates (IEC 60335-1/A1) | Not applicable.   | N/A     |

| IEC 60335-2-40 |  |   |         |
|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
| 5.101          | Motor-compressor subjected to relevant test of clause 19 of IEC 60335-2-34, unless (IEC 60335-2-40)                    | Not checked in the appliance. For the relevant tests of indoor unit, the outdoor unit was installed equipped with a motor-compressor which is approved by NEMKO employing a non-flammable refrigerant of R410A. | N/A     |
|                | motor-compressor comply with that standard (IEC 60335-2-40)  |   | N/A     |
| 5.102          | Motor-compressors tested and comply with IEC 60335-2-34 need not additionally tested for clause 21 (IEC 60335-2-40/A1) | Not checked in the appliance.   | N/A     |


|          |  |  |     |
|----------|--|--|-----|
| <b>6</b> | <b>CLASSIFICATION</b>  |  | —   |
| 6.1      | Protection against electric shock: Class I, II, III (IEC 60335-2-40)                                 | Class I appliance.   | P   |
| 6.2      | Protection against harmful ingress of water, IP degree in accordance with IEC 60529 (IEC 60335-2-40) |  | —   |
|          | - appliances or parts intended for outdoor use be at least IPX4 (IEC 60335-2-40);                    | Not checked in the appliance.  | N/A |
|          | - appliances intended only for indoor use (excluding laundry rooms) be IPX0 (IEC 60335-2-40);        | IPX0 for indoor unit.  | P   |
|          | - appliances intended to be used in laundry rooms be at least IPX1 (IEC 60335-2-40).                 |  | N/A |
| 6.101    | Degree of accessibility (accessible/not accessible to the general public) (IEC 60335-2-40)           | Not intended to be installed where accessible to the general public. | P   |

|          |  |   |   |
|----------|--|---|---|
| <b>7</b> | <b>MARKING AND INSTRUCTIONS</b>  |   | — |
| 7.1      | Rated voltage or voltage range (V).....:   | 220 – 240 V   | P |
|          | Symbol for nature of supply including number of phases, unless for single phase operation (IEC 60335-2-40).....: | Provided with symbol (~) and frequency (50 Hz).                                       | P |
|          | Rated frequency (Hz) .....   | 50 Hz   | P |
|          | Rated power input (W) .....  | Marked.<br>385 W or 333 W or 305 W  | P |
|          | Rated current (A) .....  | Marked.<br>3.0 A or 2.58 A or 2.35 A  | P |
|          | Manufacturer's or responsible vendor's name, trademark or identification mark .....                              |  | P |

| IEC 60335-2-40 |  |   |         |
|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
|                | Model or type reference .....  | (Indoor unit)<br>a) AM140FNHDEH;<br>b) AM128FNHDEH;<br>c) AM112FNHDEH | P       |
|                | Symbol 5172 of IEC 60417, for class II appliances  | Class I appliance.  | N/A     |
|                | Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains (IEC 60335-1/A1)  | Not intended to be connected to the water mains.                      | N/A     |
|                | Mass of refrigerant or of each refrigerant in blend (except for azeotropic type) (IEC 60335-2-40).....   | Not checked in the appliance  | N/A     |
|                | Refrigerant identification (IEC 60335-2-40).....   | Not checked in the appliance  | N/A     |
|                | Permissible excessive operating pressure for sanitary hot water heat pumps (IEC 60335-2-40)....  | Not such an appliance.  | N/A     |
|                | Maximum operating pressure for heat exchanger for hydronic fan coil/air handling units (IEC 60335-2-40/A2) .....   | No hydronic unit.   | N/A     |
|                | Permissible excessive operating pressure of refrigerant circuit for suction and discharge, if they differ (IEC 60335-2-40) .....   | Not marked with marking plate for indoor unit.                        | N/A     |
|                | Symbol for degree of protection against ingress of water, other than IPX0 (IEC 60335-2-40).....  | IPX0 for indoor unit.   | N/A     |
|                | Separate marking of appliances with all rated characteristics of supplementary heaters (IEC 60335-2-40).....   | No supplementary heaters.   | N/A     |
|                | Marking of direction of fluid flow (IEC 60335-2-40)  | It can be distinguished from the different diameter of pipes.         | N/A     |
|                | Flame symbol and instruction manual symbol of 7.6 visible when flammable refrigerant employed and following conditions exist (IEC 60335-2-40/A1):  |   | —       |
|                | - accessing parts expected to be subjected to maintenance or repair (IEC 60335-2-40/A1);   | Intended for the use of a non-flammable refrigerant.                  | N/A     |
|                | - observing appliance under sale or installed conditions (IEC 60335-2-40/A1);  |   | N/A     |
|                | - observing appliance packaging, if appliance charged with refrigerant (IEC 60335-2-40/A1).  |   | N/A     |
|                | If flammable refrigerant used, symbols for “read operator’s manual”, “operator’s manual; operating instructions” and “service indicator; read technical manual” (symbols 0790, 1641 and 1659 of ISO 7000) placed on appliance in location visible to persons required to know information. Perpendicular height be at least 10 mm (IEC 60335-2-40/A1 corr.1) |   | N/A     |



| IEC 60335-2-40 |   |  |         |
|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result                                       | Verdict |
|                | Additional warning symbol (flame symbol: B.3.2 of ISO 3864) placed on nameplate of unit near declaration of refrigerant type and charge information. Perpendicular height be at least 10 mm, and symbol need not be in colour (IEC 60335-2-40/A1)   |  | N/A     |
|                | Following warning also applied to appliance when flammable refrigerant employed.<br>WARNING<br>Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m <sup>2</sup> (only applies to appliances that are not fixed appliances) (IEC 60335-2-40/A1)                                  |  | N/A     |
|                | Not fixed appliances, minimum room size X specified on appliance. X in marking determined in m <sup>2</sup> by procedure described in paragraph 2 of annex GG for unventilated areas and X in marking be 4 if refrigerant charge of appliance is less than m <sub>1</sub> (see annex GG, paragraph 1.1) (IEC 60335-2-40/A1) |  | N/A     |
|                | Maximum allowable pressure for low-pressure side and high-pressure side marked on product (IEC 60335-2-40/A1)   |  | N/A     |
|                | If not already visible when accessing service port and if service port provided, service port marked to identify type of refrigerant. If refrigerant is flammable, symbol B.3.2 of ISO 3864, be included, without specifying the colour (IEC 60335-2-40/A1)   |  | N/A     |
| 7.2            | Warning for stationary appliances for multiple supply   |  | P       |
|                | Warning placed in vicinity of terminal cover  |  | P       |
| 7.3            | Range of rated values marked with the lower and upper limits separated by a hyphen  | 220 – 240 V                                  | P       |
|                | Different rated values marked with the values separated by an oblique stroke  |  | N/A     |
| 7.4            | Appliances adjustable for different rated voltages, the voltage setting is clearly discernible  | Not adjustable for different rated voltages. | N/A     |
| 7.5            | Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated power input or rated current for each rated voltage or range, unless   | Single rated voltage range of 220 – 240 V.   | N/A     |
|                | the power input is related to the mean value of the rated voltage range   |  | P       |
|                | Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear  | Single rated voltage range of 220 – 240 V.   | N/A     |
|                | power input is related to the arithmetic mean value of the rated voltage range (IEC 60335-1/A2)   |  | P       |
| 7.6            | Correct symbols used  | Correct symbols are used.                    | P       |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
|                | Flammable refrigerant, warning symbol B.3.2 of ISO 3864, including colour and format, permanently placed on appliance. Perpendicular height of triangle containing "Caution, risk of fire" symbol be at least 30 mm (IEC 60335-2-40/A1) | Intended for the use of a non-flammable refrigerant.  | N/A     |
|                | Flammable refrigerant, symbol requiring reference to manual [0790 of ISO 7000], including colour and format, permanently placed on appliance (IEC 60335-2-40/A1 corr.1)   |   | N/A     |
| 7.7            | Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply  | Indicated by letters; 1(L), 2(N)<br>Considered as correct mode of connection.   | N/A     |
| 7.8            | Except for type Z attachment, terminals for connection to the supply mains indicated as follows:  |   | —       |
|                | - marking of terminals exclusively for the neutral conductor (N)  |   | N/A     |
|                | - marking of protective earthing terminals (symbol 5019 of IEC 60417)   | Protective earthing terminal is provided.   | P       |
|                | - marking not placed on removable parts   | No marking on removable parts.  | N/A     |
| 7.9            | Marking or placing of switches which may cause a hazard   | No hazard.  | N/A     |
| 7.10           | Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .....  | With visual means for indoor unit.<br><br>On LED display:  | P       |
|                | The figure 0 indicates only OFF position, unless no confusion with the OFF position   | For address setting of communication between the indoor unit and outdoor unit.  | P       |
| 7.11           | Indication for direction of adjustment of controls  |   | P       |
| 7.12           | Instructions for safe use provided  | Provided with user/ installation manual.  | P       |
|                | Appliances not accessible to general public, classification of clause 6.101 included (IEC 60335-2-40)   | Not accessible to the general public.<br>Described on installation manual.  | P       |
|                | Appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, provided and include information given in annex DD (IEC 60335-2-40/A1)                                     | Intended for the use of a non-flammable refrigerant.  | N/A     |

| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Instructions state that (IEC 60335-1/A2):  |  | —       |
|                | - Appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction (IEC 60335-1/A2) | Adequately described similar sentences on user manual. | P       |
|                | - Children being supervised not to play with appliance (IEC 60335-1/A2)  | Described on user manual.                              | P       |
| 7.12.1         | Sufficient details for installation or maintenance supplied (IEC 60335-2-40):  |  | —       |
|                | - that the appliance shall be installed in accordance with national wiring regulations (IEC 60335-2-40);   |  | P       |
|                | - the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures (IEC 60335-2-40);  |  | P       |
|                | - for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces (IEC 60335-2-40);  | No supplementary heaters.                              | N/A     |
|                | - a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord (IEC 60335-2-40);   |  | P       |
|                | - the range of external static pressures at which the appliance was tested (add-on heat pump,s and appliances with supplementary heaters only) (IEC 60335-2-40);   |  | N/A     |
|                | - the method of connection to the appliance to the electrical supply and interconnection of separate components (IEC 60335-2-40);  |  | P       |
|                | - indication of which parts of the appliance are suitable for outdoor use, if applicable (IEC 60335-2-40);   |  | N/A     |
|                | - details of type and rating of fuses (IEC 60335-2-40);  |  | P       |
|                | - details of supplementary heating elements that may be used in conjunction with the appliance, including fitting instructions either with the appliance or with the supplementary heater (IEC 60335-2-40);              |  | N/A     |
|                | - maximum and minimum water or brine operating temperatures (IEC 60335-2-40);  |  | N/A     |
|                | - maximum and minimum water or brine operating pressures (IEC 60335-2-40).   |  | N/A     |
|                | Open storage tanks of heat pumps for water heating, accompanied by an instruction sheet which state that the vent shall not be obstructed (IEC 60335-2-40)   |  | N/A     |

| IEC 60335-2-40 |   |  |         |
|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
| 7.12.2         | Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules |  | N/A     |
| 7.12.3         | Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions stating that the fixed wiring must be protected  |  | N/A     |
| 7.12.4         | Instructions for built-in appliances:   |  | —       |
|                | - dimensions of space   | Built-in duct type.                              | P       |
|                | - dimensions and position of supporting means   |  | P       |
|                | - distances between parts and surrounding structure   |  | P       |
|                | - dimensions of ventilation openings and arrangement  |  | P       |
|                | - connection to supply mains and interconnection of separate components   |  | P       |
|                | - allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless (IEC 60335-1/A1)  | Not checked in this test report.                 | N/A     |
|                | a switch complying with 24.3 (IEC 60335-1/A1)   | Not checked in this test report.                 | N/A     |
|                | The disconnection may be achieved by having the plug accessible or by incorporating a switch in the fixed wiring in accordance with the wiring rules (IEC 60335-1/A1)   | Not checked in this test report.                 | N/A     |
| 7.12.5         | Replacement cord instructions, type X attachment with a specially prepared cord   |  | N/A     |
|                | Replacement cord instructions, type Y attachment  | Type Y attachment.                               | P       |
|                | Replacement cord instructions, type Z attachment  |  | N/A     |
| 7.12.6         | Caution in the instructions for heating appliances with a non-self resetting thermal cut-out (IEC 60335-1/A1)   | Not a heating appliance.                         | N/A     |
| 7.12.7         | Instructions for fixed appliances stating how the appliance is to be fixed (IEC 60335-1/A1)   |  | P       |
| 7.12.8         | Instructions for appliances connected to the water mains (IEC 60335-1/A1):  |  | —       |
|                | - max. inlet water pressure (Pa) (IEC 60335-1/A1):  | Not intended to be connected to the water mains. | N/A     |
|                | - min. inlet water pressure, if necessary (Pa) (IEC 60335-1/A1) .....   |  | N/A     |
|                | Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets (IEC 60335-1/A1)  |  | N/A     |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
| 7.13           | Instructions and other texts in an official language  | In English.   | P       |
| 7.14           | Marking clearly legible and durable   | Legible. No curling.<br>No damage.  | P       |
| 7.15           | Marking on a main part  | Marked on the main part.  | P       |
|                | Marking clearly discernible from the outside, if necessary after removal of a cover   | Clearly discernible.  | P       |
|                | For portable appliances, cover can be removed or opened without a tool  |   | N/A     |
|                | For stationary appliances, name, trademark or identification mark and model or type reference visible after installation  |   | P       |
|                | For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions                                 |   | P       |
|                | Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading |   | P       |
|                | Marking on panel allowed, provided panel in place for intended operation of appliance (IEC 60335-2-40)  |   | P       |
| 7.16           | Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link   | Clearly visible.  | P       |
| 7.101          | Marking of fuses and overload protective devices, if replaceable (IEC 60335-2-40):  |   | —       |
|                | - fuse rated current in amperes, type and rated voltage or (IEC 60335-2-40)   | Not intended to be replaceable by the user. Shall be replaced by any qualified personnel. | N/A     |
|                | - manufacturer and model of overload protective device (IEC 60335-2-40)   |   | N/A     |
| 7.102          | Marking for connection with aluminium wire, if necessary (IEC 60335-2-40)   | No aluminium wire.  | N/A     |

|          |   |                       |     |
|----------|---|-----------------------|-----|
| <b>8</b> | <b>PROTECTION AGAINST ACCESS TO LIVE PARTS</b>  |                       | —   |
| 8.1      | Adequate protection against accidental contact with live parts  | Adequately protected. | P   |
| 8.1.1    | Requirement applies for all positions, detachable parts removed   | Adequately protected. | P   |
|          | Insertion or removal of lamps, protection against contact with live parts of the lamp cap   | No lamps.             | N/A |
|          | Use of test probe B of IEC 61032: no contact with live parts  | No contacts.          | P   |
| 8.1.2    | Use of test probe 13 of IEC 61032 through openings in class 0 appliances and class II appliances/ constructions: no contact with live parts | Class I appliance.    | N/A |



| IEC 60335-2-40 |  |   |         |
|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
|                | Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts  |   | N/A     |
| 8.1.3          | For appliances other than class II, use of test probe 41 of IEC 61032: no contact with live parts of visible glowing heating elements  | No visible glowing heating elements.                                      | N/A     |
| 8.1.4          | Accessible part not considered live if:  |   | —       |
|                | - safety extra-low a.c. voltage: peak value not exceeding 42,4 V   | Adequately protected.   | N/A     |
|                | - safety extra-low d.c. voltage: not exceeding 42,4 V  |   | N/A     |
|                | - or separated from live parts by protective impedance   |   | N/A     |
|                | If protective impedance: d.c. current not exceeding 2 mA, and  |   | N/A     |
|                | a.c. peak value not exceeding 0,7 mA   |   | N/A     |
|                | - for peak values over 42,4 V up to and including 450 V, capacitance not exceeding 0,1 $\mu$ F   |   | N/A     |
|                | - for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 $\mu$ C   |   | N/A     |
|                | The quantity of electricity in the discharge is measured using a resistor having a nominal non-inductive resistance of 2000 $\Omega$ (IEC 60335-1/A1)  |   | N/A     |
|                | - for peak values over 15 kV energy of discharge not exceed 350 mJ (IEC 60335-1/A2)  |   | N/A     |
| 8.1.5          | Live parts protected at least by basic insulation before installation or assembly:   |   | —       |
|                | - built-in appliances  | Intended for built-in use.  | P       |
|                | - fixed appliances   | Fixed appliance.  | P       |
|                | - appliances delivered in separate units   | Intended to be delivered as separate units: Indoor unit and outdoor unit. | P       |
| 8.2            | Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only | Class I appliance.  | N/A     |
|                | Only possible to touch parts separated from live parts by double or reinforced insulation  | Class I appliance.  | N/A     |
| <b>10</b>      | <b>POWER INPUT AND CURRENT</b>   |   | —       |
| 10.1           | Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1   | (See appended table)  | P       |

| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Deviation of appliance with one or more rated voltage ranges (IEC 60335-1/A2)  | Rated: 220 – 240 V.<br>Measured at arithmetic mean value of the rated voltage range. | P       |
| 10.2           | Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2 | (See appended table)   | P       |
|                | Deviation of appliance with one or more rated voltage ranges (IEC 60335-1/A2)  | Rated: 220 – 240 V.<br>Measured at arithmetic mean value of the rated voltage range. | P       |

|           |  |   |     |
|-----------|--|---|-----|
| <b>11</b> | <b>HEATING</b>   |   | —   |
| 11.1      | No excessive temperatures in normal use (IEC 60335-2-40)   | No excessive temperatures.  | P   |
|           | Compliance is checked by the tests of annex C, if (IEC 60335-2-40):  |   | —   |
|           | - temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40)  | Not exceeded.   | N/A |
|           | - there is doubt about classification of insulation system of the motor (IEC 60335-2-40)   | No doubt about the classification of insulation system of motors. | N/A |
| 11.2      | Placing and mounting of appliance (IEC 60335-2-40):  |   | —   |
|           | - clearances to adjacent surfaces (IEC 60335-2-40);  | Installed in accordance to the manual.                            | P   |
|           | - flow rates for liquid source or sink equipment be minimum, except for fan coils where flow rates and liquid temperatures be maximum (IEC 60335-2-40/A2); | No means for adjustment.  | N/A |
|           | - static pressures (IEC 60335-2-40);   |   | N/A |
|           | - means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40);  |   | N/A |
|           | - adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40).  | No adjustable limit controls.                                     | N/A |
|           | Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40)   | No supplementary heaters.   | N/A |
| 11.2.1    | Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40)  | No supplementary heaters.   | N/A |
| 11.2.2    | Appliance without supplementary heaters, air outlet used (IEC 60335-2-40)  |   | N/A |
| 11.3      | Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40)  | By thermocouple method.   | P   |
| 11.4      | Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40)  | Tested as this clause.  | P   |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
|                | Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40)                                    | Motor operated appliance.                         | N/A     |
| 11.5           | Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40)   | At both lowest cooling and highest heating mode.  | P       |
|                | All supplementary heating elements operative simultaneously (IEC 60335-2-40)  | No supplementary heaters.                         | N/A     |
| 11.6           | Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40)  |   | N/A     |
| 11.7           | Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40)  | Operated until steady conditions are established. | P       |
| 11.8           | Temperatures not exceeding values of table 3 (IEC 60335-2-40/A2)  | (See appended tables)                             | P       |
|                | Protective devices do not operate (IEC 60335-2-40)  | Not operated.                                     | P       |
|                | Sealing compound not flowing out (IEC 60335-2-40)   |   | P       |
|                | Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40)   |   | N/A     |
| 11.9           | Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40)  | Not considered.                                   | N/A     |
|                | Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40) |   | N/A     |

|           |   |  |     |
|-----------|---|--|-----|
| <b>13</b> | <b>LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE</b>   |  | —   |
| 13.1      | Leakage current not excessive and electric strength adequate  |  | P   |
|           | Heating appliances operated at 1,15 times rated power input .....   | No heating elements.                                   | N/A |
|           | Motor-operated appliances and combined appliances supplied at 1,06 times rated voltage .....  | 1,06 x 240V~ 50Hz                                      | P   |
|           | Protective impedance and radio interference filters disconnected before carrying out the tests  |  | P   |
| 13.2      | Leakage current measured by means of the circuit described in figure 4 of IEC 60990   | Tested by this measurement circuit.                    | P   |
|           | Leakage current measurements (IEC 60335-2-40)   | (See appended table)                                   | P   |
| 13.3      | Appliance disconnected from supply and insulation is immediately subjected to voltage having frequency of 50 Hz or 60 Hz for 1 min, in accordance with IEC 61180-1 (IEC 60335-1/A1) | Applied test voltages to each insulation as specified. | P   |

| IEC 60335-2-40 |   |                      |         |
|----------------|---|----------------------|---------|
| Clause         | Requirement – Test  | Result               | Verdict |
|                | High-voltage source used for test is to be capable of supplying short circuit current $I_s$ between the output terminals after output voltage adjusted to appropriate test voltage (IEC 60335-1/A1) | (See appended table) | P       |
|                | Overload release of circuit is not to be operated by any current below tripping current $I_r$ . Values of $I_s$ and $I_r$ given in table 5 for various high-voltage sources (IEC 60335-1/A1)        | (See appended table) | P       |
|                | No breakdown during the tests   | No breakdown.        | P       |

|           |   |                 |     |
|-----------|---|-----------------|-----|
| <b>14</b> | <b>TRANSIENT OVERVOLTAGES</b>   |                 | —   |
|           | Appliances withstand the transient overvoltages to which they may be subjected  | Not applicable. | N/A |
|           | Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6 |                 | N/A |
|           | No flashover during the test, unless of functional insulation   |                 | N/A |
|           | In case of flashover of functional insulation, the appliance complies with clause 19 with the clearance short circuited               |                 | N/A |

|           |  |   |     |
|-----------|--|---|-----|
| <b>15</b> | <b>MOISTURE RESISTANCE</b>   |   | —   |
| 15.1      | Enclosure provides degree of moisture protection against ingress of water (rain, overflow from drain pan or defrosting), tests of clause 15.2, 15.3, 11.6 and 16) (IEC 60335-2-40) | IPX0 for indoor unit.<br>Adequately prevented from spillage of liquid and overflow which may reduce clearances and creepage distances.                  | P   |
|           | Motor-compressor not operated and detachable parts removed during tests of clause 15.2 and 15.3 (IEC 60335-2-40/A2)  |   | P   |
| 15.2      | Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC 60335-2-40) .....  | IPX0 for indoor unit.   | N/A |
| 15.3      | Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC 60335-2-40)  | Adequately prevented from spillage of liquid and overflow which may reduce clearances and creepage distances.   | P   |
| 15.101    | Spillage test as specified (IEC 60335-2-40/A2)   | Not accessible to the general public.<br>Described on the installation manual it shall be installed at a level of 2,5 m above the floor or grade level. | N/A |
|           | After spillage completed, appliance withstand test of clause 16 (IEC 60335-2-40/A2)  |   | N/A |

| IEC 60335-2-40 |                    |        |         |
|----------------|--------------------|--------|---------|
| Clause         | Requirement – Test | Result | Verdict |

|           |   |                      |     |
|-----------|---|----------------------|-----|
| <b>16</b> | <b>LEAKAGE CURRENT AND ELECTRIC STRENGTH</b>  |                      | —   |
| 16.1      | Leakage current not excessive and electric strength adequate                              |                      | P   |
|           | Protective impedance disconnected from live parts before carrying out the tests           |                      | P   |
| 16.2      | Single-phase appliances: test voltage 1,06 times rated voltage .....                      | 1,06 x 240V~ 50Hz    | P   |
|           | Three-phase appliances: test voltage 1,06 times rated voltage divided by $\sqrt{3}$ ..... |                      | N/A |
|           | Leakage current measurements (IEC 60335-2-40)   | (See appended table) | P   |
| 16.3      | Electric strength tests according to table 7  | (See appended table) | P   |
|           | No breakdown during the tests   | No breakdown.        | P   |

|           |   |  |     |
|-----------|---|--|-----|
| <b>17</b> | <b>OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS</b>  |  | —   |
|           | No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use                                      |  | N/A |
|           | Appliance supplied with 1,06 or 0,94 times rated voltage and the most unfavourable short-circuit or overload likely to occur in normal use applied .....      |  | N/A |
|           | Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K |  | N/A |
|           | Temperature of the winding not exceeding the value specified in table 8,  |  | N/A |
|           | however limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1   |  | N/A |

|           |  |  |   |
|-----------|--|--|---|
| <b>19</b> | <b>ABNORMAL OPERATION</b>  |  | — |
| 19.1      | The risk of fire or mechanical damage under abnormal or careless operation obviated (tests 19.2-19.14) (IEC 60335-2-40)  |  | P |
|           | Failure of transfer medium flow or of any control device not result in a hazard (IEC 60335-2-40)   |  | P |
|           | Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction) (test 19.11 and 19.12) (IEC 60335-2-40) |  | P |



| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
| 19.2           | Test of appliance with motor rotors, other than motor-compressors, operated for 15 days (360 h) or until protection device opens circuit (IEC 60335-2-40)                            | Fan motor for indoor unit is a brushless DC type.<br>Impedance protected.  | P       |
|                | Insulation of motor windings (IEC 60335-2-40).....:  | Cl. B (Cl. 130)  | P       |
|                | Temperature of enclosure does not exceed (°C) (IEC 60335-2-40).....:   | Indoor fan motor:<br>- DL-12840SSBF : 98.8 °C<br>- ZWD-183-BA02: 63.1 °C<br>Results: Less than 150 °C.<br>No hazard. | P       |
|                | Temperature of the windings does not exceed the values shown in the table ; temperature (°C) (IEC 60335-2-40).....:  | Indoor fan motor:<br>- DL-12840SSBF: 111.0 °C<br>- ZWD-183-BA02: 63.5 °C<br>Results: Less than 165 °C.<br>No hazard. | P       |
|                | Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40)   | Between windings and enclosure: 1250V for 1min   | P       |
|                | 30 mA residual current device does not open (IEC 60335-2-40)   |  | P       |
|                | At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40)   | Less than 2mA  | P       |
| 19.3           | Motor-compressor complies with IEC 60335-2-34 (IEC 60335-2-40)   | Not checked in the appliance.  | N/A     |
|                | Test of motor-compressor with rotor locked as specified in clause 19.101 of IEC 60335-2-34 and comply with 19.104 of that standard (IEC 60335-2-40)                                  |  | N/A     |
| 19.4           | Test of three-phase motors operated under conditions of clause 11 with one phase disconnected until steady conditions or protective device operates (IEC 60335-2-40)                 |  | N/A     |
| 19.5           | Test of appliance with heat transfer medium flow of the outdoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)                               | (see appended table)<br>Results: No hazard.<br>No severe temperature rise.   | P       |
|                | Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)                                       | (see appended table)<br>Results: No hazard.<br>No severe temperature rise.   | P       |
|                | Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40)  |  | N/A     |
| 19.6           | Test of appliances using water as heat transfer medium (IEC 60335-2-40)  | Not such an appliance.   | N/A     |
| 19.7           | Test of air to air appliances at rated voltage or at the upper limit of the rated voltage range. Dry-bulb temperature is 5 K below values specified by manufacturer (IEC 60335-2-40) | Results: No hazard.<br>No severe temperature rise.   | P       |

| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40)   | (see appended table)<br>Results: No hazard.<br>No severe temperature rise. | P       |
| 19.8           | Test of appliances with supplementary heaters (IEC 60335-2-40)   | No supplementary heaters.  | N/A     |
| 19.9           | Test at temperature permitting continuous operation of the motor-compressor and electric heating elements at same time (IEC 60335-2-40)  | No supplementary heaters.  | N/A     |
| 19.10          | Test of appliance with any defect which expected during normal use (IEC 60335-2-40)  | (see appended table)<br>Results: No hazard.<br>No severe temperature rise. | P       |
| 19.10.101      | Test of clause 19.10 repeated on class 0I appliances and class I appliances incorporating tubular sheathed or embedded heating elements (IEC 60335-2-40/A2)  | No heating elements.   | N/A     |
|                | However, controls not short-circuited but one end of element connected to sheath of heating element (IEC 60335-2-40/A2)  |  | N/A     |
|                | Test repeated with polarity of supply to appliance reversed and with other end of element connected to sheath (IEC 60335-2-40/A2)  |  | N/A     |
|                | Test not carried out on appliances intended to permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during test of clause 19.10 (IEC 60335-2-40/A2)        |  | N/A     |
| 19.11          | Electronic circuits, compliance checked by evaluation of the fault conditions specified in clause 19.11.2 for all circuits or parts of circuits (IEC 60335-2-40), unless                             | (see appended table)<br>Results: No hazard.<br>No severe temperature rise. | P       |
|                | they comply with conditions specified in clause 19.11.1 (IEC 60335-2-40)   |  | N/A     |
|                | Windings temperature not exceeding values shown in table 8 (IEC 60335-2-40)  |  | P       |
|                | Appliance comply with conditions of clause 19.14 (IEC 60335-2-40)  |  | P       |
|                | Appliance withstands test: a conductor becomes open circuited and three conditions are met (IEC 60335-2-40)  |  | N/A     |
| 19.11.1        | Before applying the fault conditions a) to f) in 19.11.2, it is checked if circuits or parts of circuit meet both of following conditions (IEC 60335-2-40):  |  | —       |
|                | - electronic circuit is low-power circuit, that is, maximum power at low-power points not exceed 15 W according to tests specified (IEC 60335-2-40)  |  | N/A     |
|                | - protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction in other parts of appliance does not rely on correct functioning of electronic circuit (IEC 60335-2-40) |  | N/A     |

| IEC 60335-2-40 |   |                              |         |
|----------------|---|------------------------------|---------|
| Clause         | Requirement – Test  | Result                       | Verdict |
| 19.11.2        | Fault conditions applied one at a time, appliance operated under conditions specified in clause 11, but supplied at rated voltage, duration of tests as specified (IEC 60335-2-40):   |                              | —       |
|                | a) short circuit of creepage distances and clearances between live parts of different potential, if these distances less than values specified in clause 29.1, unless relevant part is adequately encapsulated (IEC 60335-2-40) |                              | N/A     |
|                | b) open circuit at terminals of any component (IEC 60335-2-40)  |                              | P       |
|                | c) short circuit if capacitors, unless they comply with IEC 60384-14 (IEC 60335-2-40)   | Complying with IEC 60384-14. | N/A     |
|                | d) short circuit of any two terminals of an electronic component, other than integrated circuits. This fault condition not applied between circuits of an optocoupler (IEC 60335-2-40)  |                              | P       |
|                | e) failure of triacs in diode mode (IEC 60335-2-40)   |                              | N/A     |
|                | f) failure of an integrated circuit. Possible hazardous situations of appliance assessed to ensure that safety not rely on correct functioning of such component (IEC 60335-2-40)   |                              | P       |
|                | Short-circuit of low-power circuits (IEC 60335-2-40)  |                              | N/A     |
|                | Duration of tests (IEC 60335-2-40):   |                              | —       |
|                | - as specified in clause 11.7 but only for one operating cycle, if fault cannot recognised by user (IEC 60335-2-40);  |                              | P       |
|                | - as specified in clause 19.2, if fault can recognised by user (IEC 60335-2-40);  |                              | P       |
|                | - until steady conditions established (IEC 60335-2-40).   |                              | P       |
|                | Test ended if interruption of supply occurs within the appliance (IEC 60335-2-40)   |                              | P       |
|                | If electronic circuit operates to ensure compliance with clause 19, relevant test repeated with single fault a) to f) simulated (IEC 60335-2-40)  |                              | N/A     |
|                | Fault condition f) applied to encapsulated or similar components (IEC 60335-2-40)   |                              | N/A     |
|                | PTC's, NTC's and VDR's resistors not short-circuited if used as specified by manufacturer (IEC 60335-2-40)  |                              | P       |
| 19.12          | If safety of appliance for any of fault conditions specified in clause 19.11.2 depends on operation of miniature fuse-link complying with IEC 60127, test repeated with fuse-link replaced by an ammeter (IEC 60335-2-40)       |                              | P       |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
|                | Current $\leq 2,1$ times rated current of fuse-link, circuit not adequately protected (fuse-link short-circuited) (IEC 60335-2-40)  |   | N/A     |
|                | Current $\geq 2,75$ times rated current of fuse-link, circuit adequately protected (IEC 60335-2-40)   | Rated (F100): 250V~ T5A<br>During testing, F100 broken at 85 A ( $> 2.75 \times 5A$ ),<br>Considered as adequately protected. | P       |
|                | Current $\geq 2,1$ and $\leq 2,75$ times rated current, fuse-link short-circuited and test carried out during specified time (IEC 60335-2-40)   |   | N/A     |
| 19.13          | Appliances with PTC heating elements test as specified (IEC 60335-2-40)   | No PTC heating elements.  | N/A     |
| 19.14          | During tests of clause 19.2 to 19.10.101 and 19.11, 19.12 and 19.13 if appropriate, appliances not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts (IEC 60335-2-40/A2) | No flames, molten metal, poisonous or ignitable gas in hazardous amounts.   | P       |
|                | Enclosures not deform (IEC 60335-2-40)  |   | P       |
|                | Temperature rise not exceed values shown in table 9 (IEC 60335-2-40)  | (See appended table)  | P       |
|                | Electric strength test, test voltage as specified in table 4 (IEC 60335-2-40)   | No breakdown.   | P       |
| 19.101         | All appliances provided with supplementary heaters and free air discharge subjected to specified test in each mode of operation (IEC 60335-2-40/A2)   | No supplementary heaters.   | N/A     |
|                | During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40/A2)  | No supplementary heaters.   | N/A     |

|           |   |                                    |     |
|-----------|---|------------------------------------|-----|
| <b>20</b> | <b>STABILITY AND MECHANICAL HAZARDS</b>   |                                    | —   |
| 20.1      | Adequate stability  | Fixed appliance.                   | N/A |
|           | Tilting test through an angle of 10 ° (appliance placed on an inclined plane/horizontal plane); appliance does not overturn |                                    | N/A |
|           | Tilting test repeated on appliances with heating elements, angle of inclination increased to 15 °                           |                                    | N/A |
|           | Possible heating test in overturned position; temperature rise does not exceed values shown in table 9                      |                                    | N/A |
| 20.2      | Moving parts adequately arranged or enclosed as to provide protection against personal injury                               | Adequately arranged and protected. | P   |
|           | Protective enclosures, guards and similar parts are non-detachable  |                                    | P   |

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|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Adequate mechanical strength and fixing of protective enclosures   |  | P       |
|                | Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard, by unexpected reclosure | No hazard.   | P       |
|                | Not possible to touch dangerous moving parts with test probe   | No touch with test probe.<br>Described to be installed at a level of 2,5 m height on manual as well. | P       |

|           |   |   |     |
|-----------|---|---|-----|
| <b>21</b> | <b>MECHANICAL STRENGTH</b>  |   | —   |
| 21.1      | Appliance has adequate mechanical strength and constructed as to withstand rough handling   | Having adequate mechanical strength.  | P   |
|           | Checked by applying blows to the appliance in accordance with test Ehb of IEC 60068-2-75, spring hammer test, impact energy 0,5 J (IEC 60335-1/A1)  | Providing with adequate mechanical strength.  | P   |
|           | If necessary, supplementary or reinforced insulation subjected to the electric strength test of 16.3  | No doubt, no needs.   | N/A |
|           | If necessary, repetition of groups of three blows on a new sample   | No doubt, no needs.   | N/A |
|           | Safety requirements specified in annex EE applied. Pressure test in annex EE applies to parts other than pressure vessels (IEC 60335-2-40/A1)   | 1) Motor-compressor is not applicable in this test report.<br>2) Test location:<br>Heat exchanger of indoor unit.<br>Test result:<br>No leakage, damage, or hazard. | P   |
|           | Safety requirements of ISO 5149 applied (IEC 60335-2-40/A2)   | Complying with ISO 5149.  | P   |
| 21.2      | Accessible parts of solid insulation shall have sufficient strength to prevent penetration by sharp implements (IEC 60335-1/A1)   |   | P   |
|           | Compliance is checked by subjecting the insulation to the following test, unless the thickness of supplementary insulation is at least 1 mm and that of reinforced insulation is at least 2 mm (IEC 60335-1/A1)         | 1) Supplementary insulation:<br>Not less than 1mm<br>2) Reinforced insulation:<br>Not less than 2mm   | P   |
|           | The insulation is raised to the temperature measured during the test of clause 11 (IEC 60335-1/A1)  |   | N/A |
|           | The surface of the insulation is then scratched by means of a hardened steel pin, the end of which has the form of a cone with an angle of 40 °. Its tip is rounded with a radius of 0,25 mm ± 0,02 mm (IEC 60335-1/A1) |   | N/A |



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|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
|                | The pin is held at an angle of 80 ° - 85 ° to the horizontal and loaded so that the force exerted along its axis is 10 N ± 0,5 N (IEC 60335-1/A1)   |        | N/A     |
|                | The scratches are made by drawing the pin along the surface of the insulation at a speed of approximately 20 mm/s. Two parallel scratches are made (IEC 60335-1/A1)   |        | N/A     |
|                | They are spaced sufficiently apart so that they are not affected by each other, their length covering approximately 25 % of the length of the insulation (IEC 60335-1/A1)   |        | N/A     |
|                | Two similar scratches are made at 90 ° to the first pair without crossing them (IEC 60335-1/A1)   |        | N/A     |
|                | Test fingernail of figure 7 is then applied to the scratched surface with a force of approximately 10 N. No further damage, such as separation of the material, shall occur. The insulation shall then withstand the electric strength test of 16.3. (IEC 60335-1/A1)       |        | N/A     |
|                | Hardened steel pin is then applied perpendicularly with a force of 30 N ± 0,5 N to an unscratched part of the surface. The insulation shall then withstand the electric strength test of 16.3 with the pin still applied and used as one of the electrodes (IEC 60335-1/A1) |        | N/A     |

|           |  |   |     |
|-----------|--|---|-----|
| <b>22</b> | <b>CONSTRUCTION</b>  |   | —   |
| 22.1      | Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled                   | IPX0 for indoor unit.   | N/A |
| 22.2      | Stationary appliance: means to provide all-pole disconnection from the supply provided, the following means being available: |   | —   |
|           | - a supply cord fitted with a plug   | 1. Not checked in this test report.<br>2. The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord referring to an installation manual. | P   |
|           | - a switch complying with 24.3   | Not checked in this test report.  | N/A |
|           | - a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided               |   | P   |
|           | - an appliance inlet   | No appliance inlet.   | N/A |

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|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Single-pole switches and single-pole protective devices for disconnection of heating elements in single-phase, permanently connected class 0I and I appliances, connected to phase conductor (IEC 60335-1/A2)  |  | N/A     |
| 22.3           | Appliance provided with pins: no undue strain on socket-outlets  |  | N/A     |
|                | Applied torque not exceeding 0,25 Nm   |  | N/A     |
|                | Pull force of 50 N to each pin after the appliance has been placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1 mm  |  | N/A     |
|                | Each pin subjected to a torque of 0,4 Nm; the pins are not rotating unless rotating does not impair compliance with the standard   |  | N/A     |
| 22.4           | Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets   | No heating liquids or undue vibration.   | N/A     |
| 22.5           | No risk of electric shock when touching pins of plug, for appliances having a capacitor with rated capacitance exceeding 0,1 $\mu$ F, appliance being disconnected from supply at instant of voltage peak (IEC 60335-1/A2)   | Not provided with the supply cord fitted with a plug.  | N/A     |
|                | The appliance is supplied at rated voltage. Any switch is then placed in the off position and the appliance is disconnected from the supply mains at the instant of voltage peak. One second after disconnection, the voltage between the pins of the plug is measured with an instrument that does not appreciably affect the value to be measured (IEC 60335-1/A1) |  | N/A     |
|                | The voltage shall not exceed 34 V  |  | N/A     |
| 22.6           | Electrical insulation not affected by condensing water or leaking liquid   | Constructed so that the appliance is prevented from condensing water or leaking liquid which may cause a hazard. | P       |
|                | Electrical insulation of class II appliances not affected in case of a hose rupture or seal leak   |  | N/A     |
|                | Electrical insulation not affected by snow penetration to appliance enclosure (IEC 60335-2-40)   | Considered the indoor unit only.   | N/A     |
| 22.7           | Adequate safeguards against the risk of excessive pressure in appliances provided with steam-producing devices   | No steam-producing devices.  | N/A     |
| 22.8           | Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use   |  | P       |

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|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
| 22.9           | Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances  | Not exposed to oil, grease or similar substances.   | P       |
|                | Adequate insulating properties of oil or grease to which insulation is exposed  |   | N/A     |
| 22.10          | Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance (IEC 60335-1/A1)                   | No such components.   | N/A     |
|                | Non-self resetting thermal motor protectors have a trip-free action, unless (IEC 60335-1/A1)  | Self resetting thermal motor protectors.  | N/A     |
|                | they are voltage maintained (IEC 60335-1/A1)  |   | N/A     |
|                | Location or protection of reset buttons of non-self-resetting controls is so that accidental resetting is unlikely (IEC 60335-1/A1)   | No reset button.  | N/A     |
| 22.11          | Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts   | Fixed in a reliable manner by metal screws, and adequate to withstand the mechanical stress.                                    | P       |
|                | Obvious locked position of snap-in devices used for fixing such parts   |   | P       |
|                | No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing   |   | P       |
|                | Tests as described  | 50 N.   | P       |
| 22.12          | Handles, knobs etc. fixed in a reliable manner  | No such parts.  | N/A     |
|                | Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible  |   | N/A     |
|                | Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied  |   | N/A     |
|                | Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied  |   | N/A     |
| 22.13          | Unlikely that handles, when gripped as in normal use, make the operators hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only | No such parts.  | N/A     |
| 22.14          | No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance   | No ragged or sharp edges creating a hazard for the user in normal use.<br>Cooling fins are allowed to be used for its function. | P       |
|                | No exposed pointed ends of self tapping screws etc., liable to be touched by the user in normal use or during user maintenance  | No exposed pointed ends of self tapping screws etc.   | P       |

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|----------------|--|---------------------------------------|---------|
| Clause         | Requirement – Test   | Result                                | Verdict |
| 22.15          | Storage hooks and the like for flexible cords smooth and well rounded  | Smooth and well rounded.              | P       |
| 22.16          | Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands, no undue wear of contacts    | No automatic cord reels.              | N/A     |
|                | Cord reel tested with 6000 operations, as specified  |                                       | N/A     |
|                | Electric strength test of 16.3, voltage of 1000 V applied  |                                       | N/A     |
| 22.17          | Spacers not removable from the outside by hand or by means of a screwdriver or a spanner   | No spacer.                            | N/A     |
| 22.18          | Current-carrying parts and other metal parts resistant to corrosion under normal conditions of use   | Resistant to corrosion in normal use. | P       |
| 22.19          | Driving belts not used as electrical insulation  | No driving belts.                     | N/A     |
| 22.20          | Direct contact between live parts and thermal insulation effectively prevented, unless material used is non-corrosive, non-hygroscopic and non-combustible |                                       | P       |
|                | Compliance is checked by inspection and, if necessary, by appropriate test   |                                       | P       |
| 22.21          | Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless impregnated  | No such materials.                    | N/A     |
|                | Requirement does not apply to magnesium oxide and mineral ceramic fibres used for electrical insulation of heating elements (IEC 60335-1/A2)               |                                       | N/A     |
| 22.22          | Appliances not containing asbestos   | No asbestos.                          | P       |
| 22.23          | Oils containing polychlorinated biphenyl (PCB) not used  | No oil containing PCB.                | P       |
| 22.24          | Bare heating elements adequately supported to prevent contact with accessible metal parts in case of rupture or sagging (IEC 60335-2-40)                   | No bare heating elements.             | N/A     |
|                | Bare heating elements only used with metal enclosures (wood or composite enclosures not allowed) (IEC 60335-2-40)  |                                       | N/A     |
| 22.25          | Sagging heating conductors cannot come into contact with accessible metal parts  | No sagging heating conductor.         | N/A     |
| 22.26          | The insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation |                                       | N/A     |
| 22.27          | Parts connected by protective impedance separated by double or reinforced insulation   |                                       | N/A     |

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|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
| 22.28          | Metal parts of class II appliances conductively connected to gas pipes or in contact with water: separated from live parts by double or reinforced insulation                      |   | N/A     |
| 22.29          | Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation                         |   | N/A     |
| 22.30          | Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or   |   | P       |
|                | so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete               |   | P       |
| 22.31          | Clearances and creepage distances over supplementary and reinforced insulation not reduced below values specified in clause 29 as a result of wear                                 | The enclosure and internal parts are adequately fixed by screws. Clearances and creepage distances are never reduced below the required values as a result of wear. | P       |
|                | Clearances and creepage distances between live parts and accessible parts not reduced below values for supplementary insulation, if wires, screws etc. become loose                | The enclosure and internal parts are adequately fixed by screws.  | P       |
| 22.32          | Supplementary and reinforced insulation designed or protected against deposition of dirt or dust   | Constructed so that clearances and creepage distances are never reduced below the required values due to deposition of dirt or dust.                                | P       |
|                | Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2 | No natural or synthetic rubber for supplementary insulation.  | N/A     |
|                | Ceramic material not tightly sintered, similar material or beads alone not used as supplementary or reinforced insulation  | No ceramic material for supplementary or reinforced insulation.   | N/A     |
|                | Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature  |   | N/A     |
|                | Insulating material in which heating conductors are embedded considered to be basic insulation and not reinforced insulation (IEC 60335-1/A2)                                      | No heating conductors.  | N/A     |
| 22.33          | Conductive liquids that are or may become accessible in normal use are not in direct contact with live parts   | No conductive liquids.  | N/A     |
|                | Electrodes not used for heating liquids  |   | N/A     |
|                | For class II constructions, conductive liquids that are or may become accessible in normal use, not in direct contact with basic or reinforced insulation                          |   | N/A     |

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|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
|                | For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation  |   | N/A     |
| 22.34          | Shafts of operating knobs, handles, levers etc. not live, unless the shaft is not accessible when the part is removed  | No such parts.                                  | N/A     |
| 22.35          | Handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation (IEC 60335-1/A2)  | No such parts.                                  | N/A     |
|                | Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, they are either adequately covered by insulation material, or their accessible parts are separated from their shafts or fixings by supplementary insulation (IEC 60335-1/A2) |   | N/A     |
|                | Requirement does not apply to handles, levers and knobs on stationary appliances other than those of electrical components, provided they are either reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal   |   | N/A     |
| 22.36          | Handles continuously held in the hand in normal use are so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless they are separated from live parts by double or reinforced insulation   | No such parts.                                  | N/A     |
| 22.37          | Capacitors in class II appliances not connected to accessible metal parts, unless complying with 22.42   |   | N/A     |
|                | Metal casings of capacitors in class II appliances separated from accessible metal parts by supplementary insulation, unless complying with 22.42  |   | N/A     |
| 22.38          | Capacitors not connected between the contacts of a thermal cut-out   | Not connected.                                  | P       |
| 22.39          | Lamp holders used only for the connection of lamps   | No lamp holders.                                | N/A     |
| 22.40          | Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible  | Fixed appliance.<br>No accessible moving parts. | N/A     |
|                | Unless appliance can operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch. Actuating member of switch being easily visible and accessible (IEC 60335-1/A2)  |   | N/A     |
| 22.41          | No components, other than lamps, containing mercury  | No components containing mercury.               | P       |



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|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
| 22.42          | Protective impedance consisting of at least two separate components   |  | N/A     |
|                | Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited   |  | N/A     |
| 22.43          | Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur   | Not adjustable for different voltages.   | N/A     |
| 22.44          | Appliances not have an enclosure shaped or decorated like a toy (IEC 60335-1/A2)  | The enclosure is not shaped or decorated enough for children not to treat it as a toy. | P       |
| 22.45          | When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.4 due to deformation as a result of an external force applied to the enclosure | Air is not used as reinforced insulation.  | N/A     |
| 22.46          | Software used in protective electronic circuits is software class B or C (IEC 60335-1/A1):  | Not considered.  | N/A     |
| 22.47          | Appliances connected to the water mains withstand the water pressure expected in normal use (IEC 60335-1/A1)  | Not intended to be connected to the water mains.                                       | N/A     |
|                | No leakage from any part, including any inlet water hose (IEC 60335-1/A1)   |  | N/A     |
| 22.48          | Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water (IEC 60335-1/A1)  | Not intended to be connected to the water mains.                                       | N/A     |
| 22.49          | Remote operation duration of operation set before appliance can be started, unless (IEC 60335-1/A2)   |  | N/A     |
|                | appliance switches off automatically or can operate continuously without hazard (IEC 60335-1/A2)  |  | N/A     |
| 22.50          | Controls incorporated in appliance take priority over controls actuated by remote operation (IEC 60335-1/A2)  |  | N/A     |
| 22.51          | Control on appliance being manually adjusted to setting for remote operation before appliance can be operated in this mode (IEC 60335-1/A2)   |  | N/A     |
|                | Visual indication showing that appliance is adjusted for remote operation (IEC 60335-1/A2)  |  | N/A     |
|                | Manual setting and visual indication not necessary on appliances that can operate as follows, without giving rise to a hazard (IEC 60335-1/A2):                                     |  | —       |
|                | - operate continuously (IEC 60335-1/A2),  |  | N/A     |
|                | - operate automatically, or (IEC 60335-1/A2)  |  | N/A     |
|                | - be operated remotely (IEC 60335-1/A2)   |  | N/A     |
| 22.52          | Socket-outlets on appliances accessible to user in accordance with socket-outlet system used in country where appliance sold (IEC 60335-1/A2)                                       | No socket-outlets.   | N/A     |

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|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result                                  | Verdict |
| 22.101         | Appliances intended to be fixed, securely fixed (IEC 60335-2-40)  | Securely fixed.                         | P       |
| 22.102.1       | At least two thermal cut-outs in appliances with supplementary heating elements for air (first one be self-resetting and other non-self-resetting thermal cut-out) (IEC 60335-2-40/A2)                        | No supplementary heating elements.      | N/A     |
| 22.102.2       | Appliances provided with supplementary heaters for water incorporate non-self-resetting thermal cut-out, providing all-pole disconnection that operates separately from water thermostats (IEC 60335-2-40/A2) | No supplementary heaters.               | N/A     |
|                | However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected (IEC 60335-2-40/A2)  |   | N/A     |
| 22.102.3       | Thermal cut-outs of capillary type open in event of leakage from capillary tube (IEC 60335-2-40/A2)   | No supplementary heaters.               | N/A     |
| 22.103         | Non-self-resetting cut-outs independent of other control devices (IEC 60335-2-40)   |   | N/A     |
| 22.104         | Containers of sanitary hot water heat pumps withstand twice permissible operating pressure in closed containers (IEC 60335-2-40) or   | No sanitary hot water heat pumps.       | N/A     |
|                | 0,15 MPa in open containers (IEC 60335-2-40)  |   | N/A     |
|                | without leakage or rupture (IEC 60335-2-40)   |   | N/A     |
| 22.105         | Air or vapour cushion in closed containers not exceeding 10 % (IEC 60335-2-40)  | Not provided.                           | N/A     |
| 22.106         | Pressure relief devices operating at 0,1 MPa over permissible operating pressure (IEC 60335-2-40)   | Not provided.                           | N/A     |
| 22.107         | Water outlet systems of open containers free from obstruction causing over-pressure (IEC 60335-2-40)  | Not provided.                           | N/A     |
|                | Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC 60335-2-40)  |   | N/A     |
| 22.108         | Not vented open containers subjected to test in accordance with clause 22.104 to vacuum of 33 kPa for 15 min (IEC 60335-2-40)   | No sanitary hot water heat pumps.       | N/A     |
|                | Container shiw no deformation which result in a hazard (IEC 60335-2-40)   |   | N/A     |
| 22.109         | Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC 60335-2-40)   | No non-self-resetting thermal cut-outs. | N/A     |
| 22.110         | Non-self-resetting thermal cut-outs operate without short-circuiting live parts of different potential and without causing contact between live parts and enclosure (IEC 60335-2-40)                          | No non-self-resetting thermal cut-outs. | N/A     |
|                | Test repeated five times without blowing 3 A fuse which connects appliance to earth (IEC 60335-2-40)  |   | N/A     |

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| Clause         | Requirement – Test   | Result   | Verdict |
|                | Electric strength test as specified in clause 16.3 for supplementary heating elements (IEC 60335-2-40)   |  | N/A     |
| 22.111         | Manual resetting of thermostats not necessary after power supply interruption (IEC 60335-2-40)   |  | N/A     |
| 22.112         | Construction of refrigerating system comply with requirements of Section 3 of ISO 5149 (IEC 60335-2-40/A1)   | Complied with relevant requirements.                 | P       |
| 22.113         | Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC 60335-2-40/A1)  | Intended for the use of a non-flammable refrigerant. | N/A     |
|                | Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC 60335-2-40/A1)   |  | N/A     |
|                | Tubing located within confines of cabinet considered to be protected from mechanical damage (IEC 60335-2-40/A1)  |  | N/A     |
| 22.114         | Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections (IEC 60335-2-40/A1)  | Intended for the use of a non-flammable refrigerant. | N/A     |
| 22.115         | Total refrigerant mass (M) of all refrigerating systems within appliance employing flammable refrigerants, not exceed $m_3$ defined in annex GG (IEC 60335-2-40/A1)  | Intended for the use of a non-flammable refrigerant. | N/A     |
| 22.116         | Appliances using flammable refrigerants constructed that any leaked refrigerant not flow or stagnate so as to cause fire or explosion hazard in areas within appliance where electrical components, which could be a source of ignition and which could function under normal conditions or in event of leak, fitted (IEC 60335-2-40/A1) | Intended for the use of a non-flammable refrigerant. | N/A     |
|                | Separate components, such as thermostats, which charged with less than 0,5 g of flammable gas not considered to cause fire or explosion hazard in event of leakage of gas within component itself (IEC 60335-2-40/A1)  |  | N/A     |
|                | All electrical components that could be a source of ignition and which could function under normal conditions or in the event of a leak, comply with one of the following (IEC 60335-2-40/A1):   |  | —       |
|                | - IEC 60079-15:2001, Cl. 9 to 26, for group IIA gases or the refrigerant used or an applicable standard that makes electrical components suitable for use in Zone 2, 1 or 0 as defined in IEC 60079-14 (IEC 60335-2-40/A1)   | Intended for the use of a non-flammable refrigerant. | N/A     |
|                | - Not be located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of annex FF (IEC 60335-2-40/A1)  |  | N/A     |

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|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
|                | - Be located in an enclosure. The enclosure containing the electrical components comply with IEC 60079-15:2001 for enclosures suitable for use with group IIA gases or the refrigerant used (IEC 60335-2-40/A1)   |  | N/A     |
| 22.117         | Temperatures on surfaces that exposed to leakage of flammable refrigerants not exceed auto-ignition temperature of refrigerant reduced by 100 K; some typical values given in annex BB (IEC 60335-2-40/A1)  | Intended for the use of a non-flammable refrigerant. | N/A     |
| 22.118         | Flammable refrigerant used, all appliances charged with refrigerant at manufacturing location or charged on site as recommended by manufacturer (IEC 60335-2-40/A1)   | Intended for the use of a non-flammable refrigerant. | N/A     |
|                | Part of appliance that charged on site, which requires brazing or welding in installation not shipped with flammable refrigerant charge. Joints made in installation between parts of refrigerating system, with at least one part charged, made in accordance with following (IEC 60335-2-40/A1):  |  | —       |
|                | - A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part (IEC 60335-2-40/A1) |  | N/A     |
|                | - Reusable mechanical connectors and flared joints are not allowed indoors (IEC 60335-2-40/A1)  |  | N/A     |
|                | - Refrigerant tubing shall be protected or enclosed to avoid damage (IEC 60335-2-40/A1)   |  | N/A     |
|                | Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage (IEC 60335-2-40/A1)  |  | N/A     |

|           |   |  |   |
|-----------|---|--|---|
| <b>23</b> | <b>INTERNAL WIRING</b>  |  | — |
| 23.1      | Wireways smooth and free from sharp edges                               | Wireways are smooth and free from sharp edges.                   | P |
|           | Wires protected against contact with burrs, cooling fins etc.           | Wires not in contact with cooling fins.                          | P |
|           | Wire holes in metal well rounded or provided with bushings              | Well rounded.  | P |
|           | Wiring effectively prevented from coming into contact with moving parts | Effectively prevented from coming into contact with moving parts | P |

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|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
| 23.2           | Beads etc. on live wires cannot change their position, and are not resting on sharp edges or corners   | No beads.   | N/A     |
|                | Beads inside flexible metal conduits contained within an insulating sleeve   |   | N/A     |
| 23.3           | Electrical connections and internal conductors movable relatively to each other not exposed to undue stress  | Not cause undue stress.   | P       |
|                | Flexible metallic tubes not causing damage to insulation of conductors   | No flexible metallic tubes.   | N/A     |
|                | Open-coil springs not used   | Not used.   | P       |
|                | Adequate insulating lining provided inside a coiled spring, the turns of which touch one another   |   | N/A     |
|                | No damage after 10 000 flexings for conductors flexed during normal use or 100 flexings for conductors flexed during user maintenance  |   | N/A     |
|                | Electric strength test, 1000 V between live parts and accessible metal parts   |   | N/A     |
| 23.4           | Bare internal wiring sufficiently rigid and fixed  | No bare internal wiring.  | N/A     |
| 23.5           | The insulation of internal wiring withstanding the electrical stress likely to occur in normal use   | The insulation of internal wiring withstands the electrical stress likely to occur in normal use. | P       |
|                | No breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation   | No breakdown.   | P       |
| 23.6           | Sleeving used as supplementary insulation on internal wiring retained in position by positive means  | Adequately secured by tie-bands.  | P       |
| 23.7           | The colour combination green/yellow used only for earthing conductors  | Earthing conductor is colored green/yellow.   | P       |
| 23.8           | Aluminium wires not used for internal wiring   | No aluminium wires.   | N/A     |
| 23.9           | No lead-tin soldering of stranded conductors where they are subject to contact pressure, unless  | Connectors are provided.  | P       |
|                | clamping means so constructed that there is no risk of bad contact due to cold flow of the solder  |   | N/A     |
| 23.10          | The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52) (IEC 60335-1/A1) | Not intended to be connected to the water mains.  | N/A     |

|           |  |   |   |
|-----------|--|---|---|
| <b>24</b> | <b>COMPONENTS</b>  |   | — |
| 24.1      | Components comply with safety requirements in relevant IEC standards | Complying with IEC or equivalent standards. | P |

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|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result                                      | Verdict |
|                | List of components  | (See appended table)                        | —       |
|                | Components not tested and found to comply with relevant IEC standard for number of cycles specified, tested in accordance with clause 24.1.1 to 24.1.9 (IEC 60335-1/A2)   | Complying with IEC or equivalent standards. | P       |
|                | Components not tested and found to comply with relevant IEC standard, components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance  | Complying with IEC or equivalent standards. | P       |
|                | Lampholders and starterholders not being tested and found to comply with relevant IEC standard, tested as a part of appliance and additionally according to gauging and interchangeability requirements of relevant IEC standard (IEC 60335-1/A2) | No such components.                         | N/A     |
|                | Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC 60335-2-40)  | Not checked in the appliance.               | N/A     |
| 24.1.1         | Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14, or  | Complying with IEC 60384-14.                | P       |
|                | tested according to annex F   |   | N/A     |
| 24.1.2         | Safety isolating transformers complying with IEC 61558-2-6, or  | No such safety isolating transformer.       | N/A     |
|                | tested according to annex G   |   | N/A     |
| 24.1.3         | Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000, or  | No such switches.                           | N/A     |
|                | tested according to annex H   |   | N/A     |
|                | If the switch operates a relay or contactor, the complete switching system is subjected to the test   |   | N/A     |
| 24.1.4         | Automatic controls complying with IEC 60730-1 with relevant part 2. The number of cycles of operation being:  |   | —       |
|                | - thermostats:..... 10 000  |   | N/A     |
|                | - temperature limiters: ..... 1000  |   | N/A     |
|                | - self-resetting thermal cut-outs (IEC 60335-2-40): ..... 3000  |   | N/A     |
|                | - voltage maintained non-self-resetting thermal cut-outs: ..... 1000  |   | N/A     |
|                | - other non-self-resetting thermal cut-outs (IEC 60335-2-40): ..... 300   |   | N/A     |
|                | - timers: ..... 3000  |   | N/A     |
|                | - energy regulators: ..... 10 000   |   | N/A     |



| IEC 60335-2-40 |   |  |         |
|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
|                | - thermostats which control motor-compressor (IEC 60335-2-40): ..... 100 000  |  | N/A     |
|                | - motor-compressor starting relays (IEC 60335-2-40): ..... 100 000  |  | N/A     |
|                | - automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (not less than number of operations during locked rotor test) (IEC 60335-2-40): ..... min 2000   |  | N/A     |
|                | - manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC 60335-2-40): ..... 50  |  | N/A     |
|                | - other automatic thermal motor-protectors (IEC 60335-2-40): ..... 2000   |  | N/A     |
|                | - other manual reset thermal motor-protectors (IEC 60335-2-40): ..... 30  |  | N/A     |
|                | Thermal motor protectors are tested in combination with their motor under the conditions specified in annex D (IEC 60335-1/A1)  |  | N/A     |
|                | For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7 (IEC 60335-1/A1) | Not intended to be connected to the water mains.               | N/A     |
| 24.1.5         | Appliance couplers complying with IEC 60320-1   | No appliance couplers.   | N/A     |
|                | However, appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3 (IEC 60335-1/A1)   |  | N/A     |
|                | Interconnection couplers complying with IEC 60320-2-2   |  | N/A     |
| 24.1.6         | Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable   | No lamp holders.   | N/A     |
| 24.1.7         | Remote operation of appliance via telecommunication network, relevant standard for telecommunication interface circuitry in appliance is IEC 62151 (IEC 60335-1/A2)   | No such remote operation.                                      | N/A     |
| 24.1.8         | Standard for thermal links IEC 60691 (IEC 60335-1/A2)   | Incorporated with terminal block.<br>Complying with IEC 60691. | P       |
|                | Thermal links not complying with IEC 60691 considered to be an intentionally weak part for purposes of clause 19 (IEC 60335-1/A2)   |  | N/A     |
| 24.1.9         | Relays, other than motor starting relays, tested as part of appliance (IEC 60335-1/A2)  | Approved relays are used.<br>Checked in the appliance.         | P       |

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|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
|                | They also tested in accordance with clause 17 of IEC 60730-1, number of operations in clause 24.1.4 selected according to relay function in the appliance (IEC 60335-1/A2) .....   | Approved relays are used.<br>Checked in the appliance.      | P       |
| 24.2           | No switches or automatic controls in flexible cords  | No such components.   | P       |
|                | No devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance   | No such devices.  | P       |
|                | No thermal cut-outs that can be reset by soldering   | No such components.   | P       |
| 24.3           | Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and having a contact separation in all poles, providing full disconnection under overvoltage category III conditions                    | No such components.   | N/A     |
| 24.4           | Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1 | Not applicable.   | N/A     |
| 24.5           | Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance and used accordingly  | Brushless DC type of fan motor.<br>No auxiliary capacitors. | N/A     |
|                | Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load   |   | N/A     |
| 24.6           | Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V  | No such motors.   | N/A     |
|                | In addition, the motors are complying with the requirements of annex I   |   | N/A     |
| 24.7           | Hose-sets for connection of appliances to the water mains, complying with IEC 61770 and supplied with the appliance (IEC 60335-1/A1)   | Not intended to be connected to the water mains.            | N/A     |
| 24.101         | Replaceable parts of thermal control devices identified by marking (IEC 60335-2-40)  | Not considered.   | N/A     |

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|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
| <b>25</b>      | <b>SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS</b>  |   | —       |
| 25.1           | Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:  |   | —       |
|                | - supply cord fitted with a plug  | 1. Not checked in this test report.<br>2. The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord referring to an installation manual. | P       |
|                | - an appliance inlet having at least the same degree of protection against moisture as required for appliance   |   | N/A     |
|                | - pins for insertion into socket-outlets  |   | N/A     |
|                | Supply cord fitted with plug provided, if (IEC 60335-2-40):   |   | —       |
|                | - appliance only for indoor use (IEC 60335-2-40),   |   | N/A     |
|                | - marked with rating of 25 A or less and (IEC 60335-2-40)   |   | N/A     |
|                | - complies with code requirements of country where it will be used (IEC 60335-2-40).  |   | N/A     |
|                | Appliance inlet not allowed (IEC 60335-2-40)  |   | N/A     |
| 25.2           | Appliance not provided with more than one means of connection to the supply mains   |   | P       |
|                | Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown |   | N/A     |
| 25.3           | Connection of supply conductors for appliance intended to be permanently connected to fixed wiring possible after the appliance has been fixed to its support   |   | N/A     |
|                | Appliance provided with a set of terminals for the connection of cables or fixed wiring, cross-sectional areas specified in 26.6  |   | N/A     |
|                | Appliance provided with a set of terminals allowing the connection of a flexible cord   |   | N/A     |
|                | Appliance provided with a set of supply leads accommodated in a suitable compartment  |   | N/A     |
|                | Appliance provided with a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate type of cable or conduit  |   | N/A     |

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|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
| 25.4           | Cable and conduit entries, rated current of appliance not exceeding 16 A, dimensions according to table 10  |  | N/A     |
|                | Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in 29  |  | N/A     |
| 25.5           | Method for assemble supply cord with the appliance:   |  | —       |
|                | - type X attachment   |  | N/A     |
|                | - type Y attachment   | Type Y attachment.   | P       |
|                | - type Z attachment, if allowed in part 2   |  | N/A     |
|                | Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords   | Type Y attachment.   | N/A     |
| 25.6           | Plugs fitted with only one flexible cord  | No plugs provided with.  | N/A     |
| 25.7           | Supply cords being one of the following types (IEC 60335-1/A2):   |  | —       |
|                | - rubber sheathed (at least 60245 IEC 53) (IEC 60335-1/A2)  |  | N/A     |
|                | - polychloroprene sheathed (at least 60245 IEC 57) (IEC 60335-1/A2)   |  | N/A     |
|                | - cross-linked polyvinyl chloride sheathed (at least 60245 IEC 87) (IEC 60335-1/A2)   |  | N/A     |
|                | Polyvinyl chloride sheathed:<br>Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during clause 11 (IEC 60335-1/A2) |  | —       |
|                | - light polyvinyl chloride sheathed cord (at least 60227 IEC 52), appliances not exceeding 3 kg (IEC 60335-1/A2)  |  | N/A     |
|                | - ordinary polyvinyl chloride sheathed cord (at least 60227 IEC 53), other appliances (IEC 60335-1/A2)  |  | N/A     |
|                | Heat resistant polyvinyl chloride sheathed:<br>Not used for type X attachment other than specially prepared cords (IEC 60335-1/A2):                         |  | —       |
|                | - heat-resistant light polyvinyl chloride sheathed cord (at least 60227 IEC 56), appliances not exceeding 3 kg (IEC 60335-1/A2)                             |  | N/A     |
|                | - heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), other appliances (IEC 60335-1/A2)   |  | N/A     |
|                | Supply cords for outdoor use not lighter than polychloroprene sheathed flexible cord (60245 IEC 57) (IEC 60335-2-40)  | Interconnection cord for connecting the indoor unit into the outdoor unit.<br>Not lighter than the code designation as following;<br>60245 IEC 57 (IEC)<br>H05RN-F (CENELEC) | P       |

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| Clause         | Requirement – Test   | Result   | Verdict |
| 25.8           | Nominal cross-sectional area of supply cords according to table 11; rated current (A); cross-sectional area (mm <sup>2</sup> ) .....                                     | The manufacturer, service agent or similarly qualified person should use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual.<br>It can be variable with the user's selection of combination of outdoor unit with indoor unit. | P       |
| 25.9           | Supply cord not in contact with sharp points or edges  | No contacts.   | P       |
| 25.10          | Green/yellow core for earthing purposes in class I appliance   | Protective earthing conductor is colored green/yellow.   | P       |
| 25.11          | Conductors of supply cords not consolidated by lead-tin soldering where they are subject to contact pressure, unless   |  | N/A     |
|                | clamping means so constructed that there is no risk of bad contacts due to cold flow of the solder   |  | N/A     |
| 25.12          | Moulding the cord to part of the enclosure does not damage the insulation of the supply cord   |  | N/A     |
| 25.13          | Inlet opening so shaped as to prevent damage to the supply cord  | Well rounded.  | P       |
|                | Unless the enclosure at the inlet opening is of insulation material, a non-detachable lining or bushing complying with clause 29.3 for supplementary insulation provided |  | N/A     |
|                | If unsheathed supply cord, a similar additional bushing or lining is required, unless  |  | N/A     |
|                | the appliance is class 0   |  | N/A     |
| 25.14          | Supply cords adequately protected against excessive flexing  |  | N/A     |
|                | Flexing test:  |  | —       |
|                | - applied force (N).....:  |  | N/A     |
|                | - number of flexings.....:   |  | N/A     |
|                | The test does not result in:   |  | —       |
|                | - short circuit between the conductors   |  | N/A     |
|                | - breakage of more than 10 % of the strands of any conductor   |  | N/A     |
|                | - separation of the conductor from its terminal  |  | N/A     |
|                | - loosening of any cord guard  |  | N/A     |
|                | - damage, within the meaning of the standard, to the cord or the cord guard  |  | N/A     |

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|----------------|---|--------------------------------------|---------|
| Clause         | Requirement – Test  | Result                               | Verdict |
|                | - broken strands piercing the insulation and becoming accessible  |                                      | N/A     |
| 25.15          | Conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage  | Adequate cord anchorages are used.   | P       |
|                | The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged  |                                      | P       |
|                | Pull and torque test of supply cord, values shown in table 12: pull (N); torque (not on automatic cord reel) (Nm) .....   | Pull force: 100 N<br>Torque: 0,35 Nm | P       |
|                | Max. 2 mm displacement of cord  | Less than the value specified.       | P       |
|                | Creepage distances and clearances not reduced below values specified in clause 29.1   | Not reduced.                         | P       |
| 25.16          | Cord anchorages for type X attachments constructed and located so that:   |                                      | —       |
|                | - replacement of the cord is easily possible  | Type Y attachment.                   | N/A     |
|                | - it is clear how the relief from strain and the prevention of twisting are obtained  |                                      | N/A     |
|                | - they are suitable for different types of cord   |                                      | N/A     |
|                | - cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless separated from accessible metal parts by supplementary insulation                                      |                                      | N/A     |
|                | - the cord is not clamped by a metal screw which bears directly on the cord   |                                      | N/A     |
|                | - at least one part of the cord anchorage securely fixed to the appliance, unless part of a specially prepared cord   |                                      | N/A     |
|                | - screws which have to be operated when replacing the cord do not fix any other component, if applicable  |                                      | N/A     |
|                | - if labyrinths can be bypassed the test of 25.15 is nevertheless withstood   |                                      | N/A     |
|                | - for class 0, 0I and I appliances: they are of insulating material or are provided with an insulating lining, unless a failure of the insulation of the cord does not make accessible metal parts live |                                      | N/A     |
|                | - for class II appliances: they are of insulating material, or if of metal, they are insulated from accessible metal parts by supplementary insulation  |                                      | N/A     |
|                | Conductors not moved more than 1 mm in terminals  |                                      | N/A     |
| 25.17          | Adequate cord anchorages for type Y and Z attachment  | Type Y attachment.                   | P       |
| 25.18          | Cord anchorages only accessible with the aid of a tool, or  | Accessible with a tool only.         | P       |



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| Clause         | Requirement – Test  | Result   | Verdict |
|                | so constructed that the cord can only be fitted with the aid of a tool  |  | P       |
| 25.19          | Type X attachment, glands not used as cord anchorage in portable appliances   | Type Y attachment.   | N/A     |
|                | Tying the cord into a knot or tying the cord with string not used   |  | N/A     |
| 25.20          | Conductors of the supply cord for type Y and Z attachment adequately additionally insulated   | Type Y attachment.   | P       |
| 25.21          | Space for supply cord for type X attachment or for connection of fixed wiring constructed to permit checking of conductors with respect to correct positioning and connection before fitting any cover, no risk of damage to the conductors when fitting the cover, no contact with accessible metal parts if a conductor becomes loose, etc. | Type Y attachment.   | N/A     |
|                | For portable appliances, the uninsulated end of a conductor prevented from any contact with accessible metal parts, unless the end of the cord is such that the conductors are unlikely to slip free  | Stationary appliance.  | N/A     |
| 25.23          | Interconnection cords comply with the requirements for the supply cord, except as specified   | 1. Not checked in this test report.<br>2. The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | P       |
|                | If necessary, electric strength test of clause 16.3   |  | N/A     |
| 25.24          | Interconnection cords not detachable without the aid of a tool if compliance with the standard is impaired when they are disconnected   | Detachable with a tool only.   | P       |
| 25.25          | Dimensions of pins compatible with the dimensions of the relevant socket-outlet. Dimensions of pins and engagement face in accordance with the relevant plug in IEC 60083   |  | N/A     |

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|-----------|---|--|---|
| <b>26</b> | <b>TERMINALS FOR EXTERNAL CONDUCTORS</b>  |  | — |
| 26.1      | Appliances provided with terminals or equally effective devices for connection of external conductors   |  | P |
|           | Terminals only accessible after removal of a non-detachable cover   | Accessible after the cover detached with a tool. | P |
|           | However, earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection (IEC 60335-1/A1) | Earthing terminal of indoor unit.                | P |

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|----------------|---|--------------------|---------|
| Clause         | Requirement – Test  | Result             | Verdict |
| 26.2           | Appliances with type X attachment and appliances for connection to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless the connections are soldered                          | Type Y attachment. | N/A     |
|                | Screws and nuts serve only to clamp supply conductors, except   |                    | N/A     |
|                | internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors   |                    | N/A     |
|                | If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone   |                    | N/A     |
|                | Soldering alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free at the soldered joint   |                    | N/A     |
| 26.3           | Terminals for type X attachment and for connection to fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure and without damaging the conductor                                      | Type Y attachment. | N/A     |
|                | Terminals for type X attachment and those for connection to fixed wiring so fixed that when tightening or loosening the clamping means:   |                    | —       |
|                | - the terminal does not loosen  |                    | N/A     |
|                | - internal wiring is not subjected to stress  |                    | N/A     |
|                | - clearances and creepage distances are not reduced below the values in 29  |                    | N/A     |
|                | Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, torque applied being equal to two-thirds of torque specified. Nominal diameter of thread (mm); screw category; torque (Nm) (IEC 60335-1/A2) .....             |                    | N/A     |
| 26.4           | Terminals for type X attachment, except those with a specially prepared cord, and those for connection to fixed wiring, no special preparation of conductors required, and so constructed or placed that conductors prevented from slipping out | Type Y attachment. | N/A     |
| 26.5           | Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard  | Type Y attachment. | N/A     |
|                | Stranded conductor test, 8 mm insulation removed  |                    | N/A     |
|                | No contact between live parts and accessible metal parts and, for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only   |                    | N/A     |

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|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result                                 | Verdict |
| 26.6           | Terminals for type X attachment and for connection to fixed wiring suitable for connection of conductors with required cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm <sup>2</sup> ) (IEC 60335-1/A2) ..... | Type Y attachment.                     | N/A     |
|                | Terminals only suitable for a specially prepared cord  |  | N/A     |
| 26.7           | Terminals for type X attachment accessible after removal of a cover or part of the enclosure   | Type Y attachment.                     | N/A     |
| 26.8           | Terminals for the connection to fixed wiring, including the earthing terminal, located close to each other   | Not a permanently connected appliance. | N/A     |
| 26.9           | Terminals of the pillar type constructed and located as specified  | No such terminal.                      | N/A     |
| 26.10          | Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless conductors ends fitted with a device suitable for screw terminals  | Not used.                              | N/A     |
|                | Pull test of 5 N to the connection   |  | N/A     |
| 26.11          | For type Y and Z attachment: soldered, welded, crimped and similar connections may be used   | Type Y attachment.                     | P       |
|                | For class II appliances: the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone  |  | N/A     |
|                | For class II appliances: soldering, welding or crimping alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free  |  | N/A     |

|           |   |   |     |
|-----------|---|---|-----|
| <b>27</b> | <b>PROVISION FOR EARTHING</b>   |   | —   |
| 27.1      | Accessible metal parts of class 0I and I appliances, permanently and reliably connected to an earthing terminal or contact of the appliance inlet | Earthing terminal is reliably fixed with a screw having a washer on a metal part. | P   |
|           | Earthing terminals not connected to neutral terminal  | Not connected to neutral terminal.  | P   |
|           | Class 0, II and III appliance have no provision for earthing  | Class I appliance.  | N/A |
|           | Safety extra-low voltage circuits not earthed, unless protective extra-low voltage circuits   | Not earthed.  | P   |
| 27.2      | Clamping means adequately secured against accidental loosening  | Adequately secured against accidental loosening.                                  | P   |
|           | Terminals used for the connection of external equipotential bonding conductors allow connection of conductors of 2,5 to 6 mm <sup>2</sup> , and   |   | N/A |
|           | do not provide earthing continuity between different parts of the appliance   |   | N/A |

| IEC 60335-2-40 |   |  |         |
|----------------|---|--|---------|
| Clause         | Requirement – Test  | Result   | Verdict |
|                | Conductors cannot be loosened without the aid of a tool   |  | P       |
| 27.3           | For detachable parts that are plugged into another part of the appliance, and having an earth connection, the earth connection made before and separated after current-carrying connections when removing the part (IEC 60335-1/A1) | Not such construction.   | N/A     |
|                | For appliances with supply cord, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage   |  | P       |
| 27.4           | No risk of corrosion resulting from contact between metal of earthing terminal and other metal  | All parts have adequate protection against corrosion.  | P       |
|                | Adequate resistance to corrosion of coated or uncoated parts providing earthing continuity, other than parts of a metal frame or enclosure  | Adequately protected against corrosion.  | P       |
|                | Parts of steel providing earthing continuity provided at the essential areas with an electroplated coating, thickness at least 5 $\mu\text{m}$  |  | P       |
|                | Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure   |  | P       |
|                | In case of aluminium alloys precautions taken to avoid risk of corrosion  | No aluminium alloy.  | N/A     |
| 27.5           | Low resistance of connection between earthing terminal and earthed metal parts  |  | P       |
|                | This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided that clearances of basic insulation are based on the rated voltage of the appliance              |  | N/A     |
|                | Resistance not exceeding 0,1 $\Omega$ at the specified low-resistance test  | Applied current: 25A<br>Measured resistance; 0.02 $\Omega$<br>(PE of indoor unit to the accessible metal part of outdoor unit)<br><br>It shall be checked with an appliance connecting the indoor unit with the outdoor unit again, if the value of 1,5 times rated current is greater than 25A. | P       |
| 27.6           | Printed conductors of printed circuit boards not used to provide earthing continuity in hand held appliances (IEC 60335-1/A2)   | Stationary appliance.  | N/A     |
|                | In other appliance provide earthing continuity, if at least two tracks used with independent soldering points and appliance complies with requirements of clause 27.5 for each circuit (IEC 60335-1/A2)                             |  | N/A     |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
| <b>28</b>      | <b>SCREWS AND CONNECTIONS</b>   |   | —       |
| 28.1           | Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses   | Connections are adequately fixed and expected to withstand the mechanical stress occurring in normal use. | P       |
|                | Screws not of soft metal liable to creep, such as zinc or aluminium   | No screws of soft metal liable to creep.  | P       |
|                | Diameter of screws of insulating material min. 3 mm   |   | N/A     |
|                | Screws of insulating material not used for any electrical connection or connections providing earthing continuity   | No screws of insulating material.   | N/A     |
|                | Screws used for electrical connections or connections providing earthing continuity screw into metal  | Screws used for electrical connections or connections providing earthing continuity are of metal.         | P       |
|                | Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation   | No screws of insulating material.   | N/A     |
|                | Type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw can impair basic insulation                                  | Type Y attachment.  | N/A     |
|                | For screws and nuts; test as specified (IEC 60335-1/A2)   | (See appended table)  | P       |
| 28.2           | Electrical connections and connections providing earthing continuity constructed so that contact pressure not transmitted through insulating material liable to shrink or distort, unless shrinkage or distortion compensated | Constructed so that contact pressure is not transmitted through insulating material.                      | P       |
|                | This requirement does not apply to electrical connections in circuits carrying a current not exceeding 0,5 A  |   | P       |
| 28.3           | Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together   |   | N/A     |
|                | Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread (IEC 60335-1/A2)   |   | N/A     |
|                | However, thread-cutting (self-tapping) screws not used if they likely to be operated by user or installer (IEC 60335-1/A2)  | Not intended to be operated by users.   | N/A     |

| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
|                | Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb connection (IEC 60335-1/A2): |  | —       |
|                | - in normal use (IEC 60335-1/A2),  |  | P       |
|                | - during user maintenance (IEC 60335-1/A2),  |  | P       |
|                | - when replacing a supply cord having a type X attachment, or (IEC 60335-1/A2)   | Type Y attachment.   | N/A     |
|                | - during installation (IEC 60335-1/A2)   |  | P       |
|                | At least two screws being used for each connection providing earthing continuity, unless (IEC 60335-1/A2)  | Used not less than two screws.   | P       |
|                | screw forms a thread having a length of at least half diameter of screw (IEC 60335-1/A2)   |  | N/A     |
| 28.4           | Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity                        | Spring washers are provided against loosening for the earthing connection. | P       |
|                | Rivets for electrical connections or connections providing earthing continuity secured against loosening if subjected to torsion   | No rivets.   | N/A     |

|           |  |  |     |
|-----------|--|--|-----|
| <b>29</b> | <b>CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION</b>   |  | —   |
|           | Clearances, creepage distances and solid insulation withstand electrical stress  | Adequate to withstand electrical stresses. | P   |
|           | Coatings used on printed circuits boards to protect microenvironment (Type 1 coating) or (IEC 60335-1/A2)  | No coatings on PCBs.                       | N/A |
|           | to provide basic insulation (Type 2 coating), annex J applies (IEC 60335-1/A2)   |  | N/A |
|           | Microenvironment is pollution degree 1 under Type 1 coating (IEC 60335-1/A2)   |  | N/A |
|           | No clearance or creepage distance requirements under Type 2 coating (IEC 60335-1/A2)   |  | N/A |
|           | For motor-compressor complies with IEC 60335-2-34, parts related not checked (IEC 60335-2-40)  | Not checked in the appliance.              | N/A |
|           | For motor-compressor not complying with IEC 60335-2-34, additions and modifications as specified (IEC 60335-2-40)  |  | N/A |
| 29.1      | Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for overvoltage categories of table 15, unless (IEC 60335-1/A1) |  | P   |



| IEC 60335-2-40 |  |                                       |         |
|----------------|--|---------------------------------------|---------|
| Clause         | Requirement – Test   | Result                                | Verdict |
|                | for basic insulation and functional insulation, they comply with the impulse voltage test of clause 14 (IEC 60335-1/A1)  |                                       | N/A     |
|                | However, if construction is affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1 500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable (IEC 60335-1/A1) | Not applicable.                       | N/A     |
|                | Impulse voltage test not applicable (IEC 60335-1/A1):  |                                       | —       |
|                | - when the microenvironment is pollution degree 3 (IEC 60335-1/A1)   | Pollution degree 2.                   | N/A     |
|                | - for basic insulation of class 0 and class 0I appliances (IEC 60335-1/A1)   | Class I appliance.                    | N/A     |
|                | Appliances are in overvoltage category II  | Overvoltage category II.              | P       |
|                | Compliance is checked by inspection and measurements as specified  | (See appended table)                  | P       |
| 29.1.1         | Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage   |                                       | P       |
|                | Clearance at the terminals of tubular sheathed heating elements may be reduced to 1 mm if the microenvironment is pollution degree 1   | No tubular sheathed heating elements. | N/A     |
|                | Lacquered conductors of windings considered to be bare conductors (IEC 60335-1/A1)   | Considered bare conductors.           | P       |
| 29.1.2         | Clearances of supplementary insulation not less than those specified for basic insulation in table 16  |                                       | P       |
| 29.1.3         | Clearances of reinforced insulation not less than those specified for basic insulation in table 16, but using the next higher step for rated impulse voltage   |                                       | P       |
| 29.1.4         | For functional insulation, the values of table 16 are applicable, unless   |                                       | P       |
|                | the appliance complies with clause 19 with the functional insulation short-circuited   |                                       | N/A     |
|                | Lacquered conductors of windings considered to be bare conductors (IEC 60335-1/A1)   |                                       | P       |
|                | However, clearances at crossover points are not measured   |                                       | N/A     |
|                | Clearance between surfaces of PTC heating elements may be reduced to 1 mm  | No PTC heating elements.              | N/A     |
|                | Lacquered conductors of windings assumed to be bare conductors, but the clearances specified in table 16 are reduced by 0,5 mm for rated impulse voltages of at least 1500 V   |                                       | N/A     |

| IEC 60335-2-40 |  |  |         |
|----------------|--|--|---------|
| Clause         | Requirement – Test   | Result   | Verdict |
| 29.1.5         | Appliances having higher working voltage than rated voltage, the voltage used for determining clearances from table 16 is the sum of the rated impulse voltage and the difference between the peak value of the working voltage and the peak value of the rated voltage                              |  | N/A     |
|                | If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage |  | N/A     |
|                | Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation based on the working voltage used as the rated voltage in table 15  |  | P       |
| 29.2           | Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree  |  | P       |
|                | Pollution degree 2 applies, unless   | Pollution degree 2.                              | P       |
|                | precautions taken to protect the insulation; pollution degree 1  |  | N/A     |
|                | insulation subjected to conductive pollution; pollution degree 3   |  | N/A     |
|                | Compliance is checked by inspection and measurements as specified  | (See appended table)                             | P       |
|                | Insulation located in airflow, pollution degree 3 unless (IEC 60335-2-40)  | Protected from airflow in internal compartments. | N/A     |
|                | insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC 60335-2-40)  |  | N/A     |
| 29.2.1         | Creepage distances of basic insulation not less than specified in table 17   |  | P       |
|                | For pollution degree 1, creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14  | Pollution degree 2.                              | N/A     |
| 29.2.2         | Creepage distances of supplementary insulation at least as specified for basic insulation in table 17  |  | P       |
| 29.2.3         | Creepage distances of reinforced insulation at least double as specified for basic insulation in table 17  |  | P       |
| 29.2.4         | Creepage distances of functional insulation not less than specified in table 18  |  | P       |
|                | Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited  |  | N/A     |

| IEC 60335-2-40 |   |   |         |
|----------------|---|---|---------|
| Clause         | Requirement – Test  | Result  | Verdict |
| 29.3           | Supplementary and reinforced insulation having adequate thickness, or a sufficient number of layers, to withstand the electrical stresses (IEC 60335-1/A1)          |   | P       |
|                | Compliance checked by:  |   | —       |
|                | - measurement, in accordance with 29.3.1, or  |   | P       |
|                | - an electric strength test in accordance with 29.3.2, or   |   | P       |
|                | - an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3   | Not applicable.                                 | N/A     |
| 29.3.1         | Supplementary insulation having a thickness of at least 1 mm (IEC 60335-1/A1)   |   | P       |
|                | Reinforced insulation having a thickness of at least 2 mm (IEC 60335-1/A1)  | Non-metallic external enclosure of indoor unit. | P       |
| 29.3.2         | Each layer of material withstand the electric strength test of 16.3 for supplementary insulation (IEC 60335-1/A1)   |   | P       |
|                | Supplementary insulation consisting of at least 2 layers (IEC 60335-1/A1)   |   | P       |
|                | Reinforced insulation consisting of at least 3 layers   |   | P       |
| 29.3.3         | The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by (IEC 60335-1/A1)  | Not applicable.                                 | N/A     |
|                | the electric strength of 16.3 (IEC 60335-1/A1)  |   | N/A     |
|                | If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out (IEC 60335-1/A1) |   | N/A     |

|           |  |                                 |   |
|-----------|--|---------------------------------|---|
| <b>30</b> | <b>RESISTANCE TO HEAT AND FIRE</b>   |                                 | — |
| 30.1      | External parts of non-metallic material,   |                                 | P |
|           | parts supporting live parts, and   |                                 | P |
|           | thermoplastic material providing supplementary or reinforced insulation,   |                                 | P |
|           | sufficiently resistant to heat   | Sufficiently resistant to heat. | P |
|           | Ball-pressure test according to IEC 60695-10-2   |                                 | P |
|           | External parts: at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C).....:               | (See appended table)            | P |
|           | Parts supporting live parts: at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C) ..... | (See appended table)            | P |

| IEC 60335-2-40 |  |   |         |
|----------------|--|---|---------|
| Clause         | Requirement – Test   | Result  | Verdict |
|                | Parts of thermoplastic material providing supplementary or reinforced insulation, 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C).....: | (See appended table)  | P       |
| 30.2           | Parts of non-metallic material adequately resistant to ignition and spread of fire   | (See appended table)  | P       |
|                | Requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance                                  | Not applied.  | P       |
|                | Compliance checked by test of clause 30.2.1. In addition:  |   | —       |
|                | - attended appliances, clause 30.2.2   | Not applicable.   | N/A     |
|                | - unattended appliances, clause 30.2.3 applies   | Unattended appliance.   | P       |
|                | Appliances for remote operation, clause 30.2.3 applies (IEC 60335-1/A2)  |   | N/A     |
|                | Base material of printed circuit board, clause 30.2.4 applies  |   | P       |
| 30.2.1         | Glow-wire test of IEC 60695-2-11 at 550 °C, unless   | Checked with a severity of 550 °C.  | P       |
|                | material is classified at least HB40 according to IEC 60695-11-10 (IEC 60335-1/A2)   |   | N/A     |
|                | Parts for which the glow-wire test cannot be carried out meet the requirements in ISO 9772 for category HBF material (IEC 60335-1/A1)  |   | N/A     |
| 30.2.3         | Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2   | Unattended appliance. Considered.   | P       |
|                | Test not applicable to conditions as specified   | Not applied to such parts.  | P       |
| 30.2.3.1       | Parts of non-metallic material supporting connections carrying a current exceeding 0.2 A during normal operation, and (IEC 60335-1/A2)   |   | P       |
|                | parts of non-metallic material within a distance of 3 mm, (IEC 60335-1/A2)   |   | P       |
|                | subjected to glow-wire test of IEC 60695-2-11 with a test severity of 850 °C (IEC 60335-1/A2)  | Glow-wire test of IEC 60695-2-11 with a test severity of 850°C.<br>No parts exceeding 60 s.<br>No parts igniting the layer below. | P       |
|                | However, glow-wire test not carried out on parts of material classified as having a glow-wire flammability index of at least 850 °C according to IEC 60695-2-12 (IEC 60335-1/A2)         |   | N/A     |
|                | Glow-wire flammability index only used if in specified range of thickness (IEC 60335-1/A2)   |   | N/A     |

| IEC 60335-2-40 |  |                                    |         |
|----------------|--|------------------------------------|---------|
| Clause         | Requirement – Test   | Result                             | Verdict |
|                | Glow-wire test not carried out on small parts comply with needle-flame test of annex E or on small parts of material classified as V-0 or (IEC 60335-1/A2)             | No small parts.                    | N/A     |
|                | V-1 according to IEC 60695-1-10 (IEC 60335-1/A2)   |                                    | N/A     |
|                | Classified V-0 or V-1 material only used if in specified range of thickness (IEC 60335-1/A2)   |                                    | N/A     |
|                | Test as specified for an interposed shielding material (IEC 60335-1/A2)  |                                    | N/A     |
| 30.2.3.2       | Parts of non-metallic material supporting current-carrying connections, and (IEC 60335-1/A2)   |                                    | P       |
|                | parts of non-metallic material within a distance of 3 mm, (IEC 60335-1/A2)   |                                    | P       |
|                | subjected to glow-wire test of IEC 60695-2-11  | Tested as this clause.             | P       |
|                | However, glow-wire test not carried out on material having a glow-wire ignition temperature according to IEC 60695-2-13 of at least:                                   | Not applicable.                    | N/A     |
|                | Glow-wire test of IEC 60695-2-11, the temperature being:   |                                    | —       |
|                | - 775 °C, for connections carrying a current exceeding 0,2 A during normal operation   |                                    | N/A     |
|                | - 675 °C, for other connections  |                                    | N/A     |
|                | Glow-wire ignition temperature only used if in specified range of thickness (IEC 60335-1/A2)   |                                    | N/A     |
|                | Test as specified for an interposed shielding material (IEC 60335-1/A2)  |                                    | N/A     |
|                | When glow-wire test of IEC 60695-2-11 carried out, temperatures are:   |                                    | —       |
|                | - 750 °C, for connections carrying a current exceeding 0,2 A during normal operation   | Checked with a severity of 750°C.  | P       |
|                | - 650 °C, for other connections  |                                    | N/A     |
|                | If a flame persists longer than 2 s during test, then these parts and adjacent parts further subjected to needle-flame test of annex E, unless (IEC 60335-1/A1 corr.1) |                                    | N/A     |
|                | material is classified as V-0 or V-1 according to IEC 60695-11-10 (IEC 60335-1/A2)   |                                    | N/A     |
|                | Classified V-0 or V-1 material only used if in specified range of thickness (IEC 60335-1/A2)   |                                    | N/A     |
| 30.2.4         | Base material of printed circuit boards subjected to needle-flame test of annex E (IEC 60335-1/A2)   | Tested in accordance with Annex E. | P       |
|                | Test not carried out by specified items .....  |                                    | N/A     |

| IEC 60335-2-40 |                    |        |         |
|----------------|--------------------|--------|---------|
| Clause         | Requirement – Test | Result | Verdict |

|           |  |                       |   |
|-----------|--|-----------------------|---|
| <b>31</b> | <b>RESISTANCE TO RUSTING</b>   |                       | — |
|           | Relevant ferrous parts adequately protected against rusting  | Adequately protected. | P |
|           | Salt mist test of IEC 60068-2-52, severity 2 (IEC 60335-2-40)  |                       | P |
|           | Before test, coatings are scratched by means of a harden steel pin as specified (IEC 60335-2-40)               |                       | P |
|           | Five scratches made at least 5 mm apart and at least 5 mm from the edges (IEC 60335-2-40)                      |                       | P |
|           | Appliance not deteriorated to such an extent that compliance with clause 8 and 27 is impaired (IEC 60335-2-40) | No deterioration.     | P |
|           | Coating not be broken and not loosened from the metal surface (IEC 60335-2-40)                                 |                       | P |

|          |  |  |     |
|----------|--|--|-----|
| <b>A</b> | <b>ANNEX A (INFORMATIVE)<br/>ROUTINE TESTS</b>                     |  | —   |
|          | Description of routine tests to be carried out by the manufacturer |  | N/A |

|          |   |  |     |
|----------|---|--|-----|
| <b>B</b> | <b>ANNEX B (NORMATIVE)<br/>APPLIANCES POWERED BY RECHARGEABLE BATTERIES</b>   |  | —   |
|          | The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance   | Not powered by rechargeable batteries. | N/A |
|          | This annex does not apply to battery chargers   |  | N/A |
| 3.1.9    | Appliance operated under the following conditions:  |  | —   |
|          | - the appliance, supplied by its fully charged battery, operated as specified in relevant part 2  |  | N/A |
|          | - the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate  |  | N/A |
|          | - if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2 |  | N/A |
|          | If the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed  |  | N/A |
| 3.6.2    | Part to be removed in order to discard the battery is not considered to be detachable   |  | N/A |



| IEC 60335-2-40 |   |        |         |
|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
| 5.101          | Appliances supplied from the supply mains tested as specified for motor-operated appliances   |        | N/A     |
| 7.1            | Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals  |        | N/A     |
| 7.12           | The instructions for appliances incorporating batteries intended to be replaced by the user includes required information   |        | N/A     |
|                | Details about how to remove batteries containing materials hazardous to the environment given   |        | N/A     |
| 7.15           | Markings placed on the part of the appliance connected to the supply mains  |        | N/A     |
| 8.2            | Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment |        | N/A     |
|                | If the appliance can be operated without batteries, double or reinforced insulation required  |        | N/A     |
| 11.7           | The battery is charged for the period described   |        | N/A     |
| 19.1           | Appliances subjected to tests of clause 19.101, 19.102 and 19.103   |        | N/A     |
| 19.101         | Appliances supplied at rated voltage for 168 h, the battery being continually charged   |        | N/A     |
| 19.102         | Short-circuiting of the terminals of the battery, being fully charged, for appliances having batteries that can be removed without the aid of a tool  |        | N/A     |
| 19.103         | Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction                  |        | N/A     |
| 21.101         | Appliances having pins for insertion into socket-outlets have adequate mechanical strength, checked according to procedure 2 of IEC 60068-2-32  |        | N/A     |
|                | Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-32, the number of falls being:  |        | —       |
|                | - 100, the mass of part does not exceed 250 g   |        | N/A     |
|                | - 50, the mass of part exceeds 250 g  |        | N/A     |
|                | After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met   |        | N/A     |
| 22.3           | Appliances having pins for insertion into socket-outlets tested as fully assembled as possible  |        | N/A     |
| 25.13          | An additional lining or bushing not required for interconnection cords operating at safety extra-low voltage  |        | N/A     |

| IEC 60335-2-40 |   |        |         |
|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
| 30.2           | For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies |        | N/A     |
|                | For other parts, 30.2.2 applies   |        | N/A     |

|          |  |           |     |
|----------|--|-----------|-----|
| <b>C</b> | <b>ANNEX C (NORMATIVE)<br/>AGEING TEST ON MOTORS</b>   |           | —   |
|          | Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding | No doubt. | N/A |

|          |   |     |     |
|----------|---|-----|-----|
| <b>E</b> | <b>ANNEX E (NORMATIVE)<br/>NEEDLE-FLAME TEST</b>  |     | —   |
|          | Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications (IEC 60335-1/A2):               |     | —   |
| 5        | Severities (IEC 60335-1/A2)   |     | —   |
|          | Duration of application of test flame is 30 s ± 1 s (IEC 60335-1/A2)  | PCB | P   |
| 9        | Test procedure (IEC 60335-1/A2)   |     | —   |
| 9.1      | Specimen so arranged that flame can be applied to a vertical or horizontal edge as shown in examples of figure 1 (IEC 60335-1/A2) |     | N/A |
| 9.2      | First paragraph does not apply (IEC 60335-1/A2)   |     | N/A |
|          | If possible, flame is applied at least 10 mm from a corner (IEC 60335-1/A2)   |     | N/A |
| 9.3      | Test carried out on one specimen (IEC 60335-1/A2)   |     | N/A |
|          | If specimen does not withstand test, test may be repeated on two additional specimens, both withstanding test (IEC 60335-1/A2)    |     | N/A |
| 11       | Evaluation of test results (IEC 60335-1/A2)   |     | —   |
|          | The duration of burning not exceeding 30 s (IEC 60335-1/A2)   |     | N/A |
|          | However, for printed circuit boards, the duration of burning not exceeding 15 s (IEC 60335-1/A2)                                  |     | P   |

|          |  |                              |     |
|----------|--|------------------------------|-----|
| <b>F</b> | <b>ANNEX F (NORMATIVE)<br/>CAPACITORS</b>  |                              | —   |
|          | Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications: |                              | —   |
| 1.5      | Terminology  |                              | —   |
| 1.5.3    | Class X capacitors tested according to subclass X2   | Complying with IEC 60384-14. | N/A |

| IEC 60335-2-40 |  |        |         |
|----------------|--|--------|---------|
| Clause         | Requirement – Test   | Result | Verdict |
| 1.5.4          | This subclause is applicable   |        | N/A     |
| 1.6            | Marking  |        | —       |
|                | Items a) and b) are applicable   |        | N/A     |
| 3.4            | Approval testing   |        | —       |
| 3.4.3.2        | Table II is applicable as described  |        | N/A     |
| 4.1            | Visual examination and check of dimensions   |        | —       |
|                | This subclause is applicable   |        | N/A     |
| 4.2            | Electrical tests   |        | —       |
| 4.2.1          | This subclause is applicable   |        | N/A     |
| 4.2.5          | This subclause is applicable   |        | N/A     |
| 4.2.5.2        | Only table IX is applicable  |        | N/A     |
|                | Values for test A apply  |        | N/A     |
|                | However, for capacitors in heating appliances the values for test B or C apply                 |        | N/A     |
| 4.12           | Damp heat, steady state  |        | —       |
|                | This subclause is applicable   |        | N/A     |
|                | Only insulation resistance and voltage proof are checked                                       |        | N/A     |
| 4.13           | Impulse voltage  |        | —       |
|                | This subclause is applicable   |        | N/A     |
| 4.14           | Endurance  |        | —       |
|                | Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 applicable  |        | N/A     |
| 4.14.7         | Only insulation resistance and voltage proof are checked                                       |        | N/A     |
|                | Visual examination, no visible damage  |        | N/A     |
| 4.17           | Passive flammability test  |        | —       |
|                | This subclause is applicable   |        | N/A     |
| 4.18           | Active flammability test   |        | —       |
|                | This subclause is applicable   |        | N/A     |
| <b>G</b>       | <b>ANNEX G (NORMATIVE)<br/>SAFETY ISOLATING TRANSFORMERS</b>                                   |        | —       |
|                | The following modifications to this standard are applicable for safety isolating transformers: |        | —       |

| IEC 60335-2-40      |  |        |         |
|---------------------|--|--------|---------|
| Clause              | Requirement – Test   | Result | Verdict |
| 7                   | Marking and instructions   |        | —       |
| 7.1                 | Transformers for specific use marked with:   |        | —       |
|                     | - name, trademark or identification mark of the manufacturer or responsible vendor |        | N/A     |
|                     | - model or type reference  |        | N/A     |
| 17                  | Overload protection of transformers and associated circuits                        |        | —       |
|                     | Fail-safe transformers comply with subclause 15.5 of IEC 61558-1                   |        | N/A     |
| 22                  | Construction   |        | —       |
|                     | Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable                         |        | N/A     |
| 29                  | Clearances, creepage distances and solid insulation                                |        | —       |
| 29.1, 29.2 and 29.3 | The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply     |        | N/A     |

|          |   |  |     |
|----------|---|--|-----|
| <b>H</b> | <b>ANNEX H (NORMATIVE)<br/>SWITCHES</b>   |  | —   |
|          | Switches comply with the following clauses of IEC 61058-1, as modified:   |  | —   |
|          | - The tests of IEC 61058-1 carried out under the conditions occurring in the appliance  |  | N/A |
|          | - Before being tested, switches are operated 20 times without load  |  | N/A |
| 8        | Marking and documentation   |  | —   |
|          | Switches are not required to be marked  |  | N/A |
|          | However, switches that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference |  | N/A |
| 13       | Mechanism   |  | —   |
|          | The tests may be carried out on a separate sample   |  | N/A |
| 15       | Insulation resistance and dielectric strength   |  | —   |
| 15.1     | Not applicable  |  | N/A |
| 15.2     | Not applicable  |  | N/A |
| 15.3     | Applicable for full disconnection and micro-disconnection   |  | N/A |
| 17       | Endurance   |  | —   |
|          | Compliance is checked on three separate appliances or switches  |  | N/A |
|          | For 17.2.4.4, the number of cycles is 10 000, unless otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335                      |  | N/A |

| IEC 60335-2-40 |   |        |         |
|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
|                | Switches for operation under no load and which can be operated only by a tool and switches operated by hand that are interlocked so that they cannot be operated under load, are not subjected to the tests |        | N/A     |
|                | Subclause 17.2.2 and 17.2.5.2 are not applicable  |        | N/A     |
|                | The ambient temperature during the test is that occurring in the appliance during the test of clause 11 in IEC 60335-1  |        | N/A     |
|                | Temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1  |        | N/A     |
| 20             | Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies   |        | —       |
|                | This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24  |        | N/A     |

|          |  |                 |     |
|----------|--|-----------------|-----|
| <b>J</b> | <b>ANNEX J (NORMATIVE)<br/>COATED PRINTED CIRCUIT BOARDS</b>   |                 | —   |
|          | Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with following modifications (IEC 60335-1/A2): |                 | —   |
| 5.7      | Conditioning of the test specimens (IEC 60335-1/A2)  |                 | —   |
|          | When production samples used, three samples of printed circuit board are tested (IEC 60335-1/A2)   | No coated PCBs. | N/A |
| 5.7.1    | Cold (IEC 60335-1/A2)  |                 | —   |
|          | Test carried out at -25 °C (IEC 60335-1/A2)  |                 | N/A |
| 5.7.3    | Rapid change of temperature (IEC 60335-1/A2)   |                 | —   |
|          | Severity 1 is specified (IEC 60335-1/A2)   |                 | N/A |
| 5.9      | Additional tests (IEC 60335-1/A2)  |                 | —   |
|          | Subclause not applicable (IEC 60335-1/A2)  |                 | N/A |

|          |   |             |     |
|----------|---|-------------|-----|
| <b>K</b> | <b>ANNEX K (NORMATIVE)<br/>OVERVOLTAGE CATEGORIES</b>                             |             | —   |
|          | The information on overvoltage categories is extracted from IEC 60664-1           | Considered. | P   |
|          | Overvoltage category is a numeral defining a transient overvoltage condition      | Considered. | P   |
|          | Equipment of overvoltage category IV is for use at the origin of the installation |             | N/A |

| IEC 60335-2-40 |  |                          |         |
|----------------|--|--------------------------|---------|
| Clause         | Requirement – Test   | Result                   | Verdict |
|                | Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements |                          | N/A     |
|                | Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation  | Overvoltage category II. | P       |
|                | If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies   |                          | N/A     |
|                | Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level                    |                          | N/A     |

|          |  |             |   |
|----------|--|-------------|---|
| <b>L</b> | <b>ANNEX L (INFORMATIVE)<br/>GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES</b> |             | — |
|          | Sequences for the determination of clearances and creepage distances                               | Considered. | P |

|          |  |                     |     |
|----------|--|---------------------|-----|
| <b>M</b> | <b>ANNEX M (NORMATIVE)<br/>POLLUTION DEGREE</b>  |                     | —   |
|          | The information on pollution degrees is extracted from IEC 60664-1   | Considered.         | P   |
|          | Pollution  |                     | —   |
|          | The microenvironment determines the effect of pollution on the insulation, taking into account the microenvironment                                    |                     | P   |
|          | Means may be provided to reduce pollution at the insulation by effective enclosures or similar   |                     | P   |
|          | Minimum clearances specified where pollution may be present in the microenvironment  |                     | P   |
|          | Degrees of pollution in the microenvironment   |                     | —   |
|          | For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:   |                     | —   |
|          | - pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence  |                     | N/A |
|          | - pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected | Pollution degree 2. | P   |



| IEC 60335-2-40 |   |        |         |
|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
|                | - pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected |        | N/A     |
|                | - pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow  |        | N/A     |

|          |  |   |     |
|----------|--|---|-----|
| <b>N</b> | <b>ANNEX N (NORMATIVE)<br/>PROOF TRACKING TEST</b>   |   | —   |
|          | The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:      |   | —   |
| 7        | Test apparatus   |   | —   |
| 7.3      | Test solutions   |   | —   |
|          | Test solution A is used  | Solution A:<br>0,1% NH <sub>4</sub> Cl in de-ionized water. | P   |
| 10       | Determination of proof tracking index (PTI)  |   | —   |
| 10.1     | Procedure  |   | —   |
|          | Proof voltage is 100 V, 175 V, 400 V or 600 V .....  | 175V  | P   |
|          | Last paragraph of clause 3 applies   |   | P   |
|          | The test is carried out on five specimens  |   | P   |
|          | In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100 |   | N/A |
| 10.2     | Report   |   | —   |
|          | The report stating if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V  |   | N/A |

|          |  |             |   |
|----------|--|-------------|---|
| <b>O</b> | <b>ANNEX O (INFORMATIVE)<br/>SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30</b>      |             | — |
|          | Description of tests for determination of resistance to heat and fire (IEC 60335-1/A2) | Considered. | P |

|          |   |  |   |
|----------|---|--|---|
| <b>P</b> | <b>ANNEX P (INFORMATIVE)<br/>GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES<br/>USED IN WARM DAMP EQUABLE CLIMATES</b>   |  | — |
|          | Modifications applicable for class 0 and 0I appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE |  | — |

| IEC 60335-2-40 |   |                 |         |
|----------------|---|-----------------|---------|
| Clause         | Requirement – Test  | Result          | Verdict |
|                | Modifications may also be applied to class I appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE, if liable to be connected to a supply mains that excludes the protective earthing conductor |                 | —       |
| 5              | General conditions for the tests  |                 | —       |
| 5.7            | The ambient temperature for the tests of clauses 11 and 13 is $40^{+3}_{-0}^{\circ}\text{C}$  | Not applicable. | N/A     |
| 7              | Marking and instructions  |                 | —       |
| 7.1            | The appliance marked with the letters WDaE  |                 | N/A     |
| 7.12           | The instructions state that the appliance is to be supplied through a RCD having a rated residual operating current not exceeding 30 mA   |                 | N/A     |
|                | The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries   |                 | N/A     |
| 11             | Heating   |                 | —       |
| 11.8           | The values of table 3 reduced by 15 K   |                 | N/A     |
| 13             | Leakage current and electric strength at operating temperature  |                 | —       |
| 13.2           | The leakage current for class I appliances not exceeding 0,5 mA   |                 | N/A     |
| 15             | Moisture resistance   |                 | —       |
| 15.3           | The value of t is $37^{\circ}\text{C}$  |                 | N/A     |
| 16             | Leakage current and electric strength   |                 | —       |
| 16.2           | The leakage current for class I appliances not exceeding 0,5 mA   |                 | N/A     |
| 19             | Abnormal operation  |                 | —       |
| 19.13          | The leakage current test of clause 16.2 is applied in addition to the electric strength test of 16.3  |                 | N/A     |

|          |  |   |
|----------|--|---|
| <b>Q</b> | <b>ANNEX Q (INFORMATIVE)</b><br><b>SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS</b> | — |
|          | Description of tests for appliances incorporating electronic circuits (IEC 60335-1/A2)             | P |

|     |   |                 |     |
|-----|---|-----------------|-----|
| R   | ANNEX R (NORMATIVE)<br>SOFTWARE EVALUATION  |                 | —   |
|     | Software evaluated in accordance with the following clauses of annex H of IEC 60730-1, as modified: |                 | —   |
| H.2 | Definitions   | Not considered. | N/A |
|     | Only definitions H.2.16 to H.2.20 applicable  |                 | N/A |

| IEC 60335-2-40 |   |        |         |
|----------------|---|--------|---------|
| Clause         | Requirement – Test  | Result | Verdict |
| H.7            | Information   |        | N/A     |
|                | Only footnotes 12) to 18) of Table 7.2, as modified, applicable   |        | N/A     |
| H.11.12        | Controls using software   |        | N/A     |
|                | All the subclauses of H.11.12, as modified, except H.11.12.6 and H.11.12.6.1, applicable  |        | N/A     |
| H.11.12.7      | Delete text   |        | N/A     |
| H.11.12.7.1    | For appliances using software class C having a single channel with self-test and monitoring structure, the manufacturer provides the measures necessary to address the fault/errors in safety related segments and data |        | N/A     |
| H.11.12.8      | Software fault/error detection occurs before compliance with clause 19.13 of IEC 60335-1 is impaired  |        | N/A     |
| H.12.8.1       | Replace text  |        | N/A     |
| H.12.13        | Software and safety related hardware under its control initializes and terminates before compliance with clause 19.13 of IEC 60335-1 is impaired  |        | N/A     |

|           |   |   |
|-----------|---|---|
| <b>AA</b> | <b>ANNEX AA (INFORMATIVE) (IEC 60335-2-40)<br/>EXAMPLES FOR OPERATING TEMPERATURES OF THE APPLIANCE</b> | — |
|-----------|---|---|

|           |  |   |
|-----------|--|---|
| <b>BB</b> | <b>ANNEX BB (NORMATIVE) (IEC 60335-2-40)<br/>SELECTED INFORMATION ABOUT REFRIGERANTS</b> | — |
|-----------|--|---|

|      |   |                            |     |
|------|---|----------------------------|-----|
| CC   | ANNEX CC (INFORMATIVE) (IEC 60335-2-40/A1)<br>TRANSPORTATION, MARKING AND STORAGE FOR UNITS THAT EMPLOY<br>FLAMMABLE REFRIGERANTS |                            | —   |
| CC.1 | Transport of equipment containing flammable<br>refrigerants (IEC 60335-2-40/A1)   | Non-flammable refrigerant. | N/A |
| CC.2 | Marking of equipment using signs<br>(IEC 60335-2-40/A1)   |                            | N/A |
| CC.3 | Disposal of equipment using flammable refrigerants<br>(IEC 60335-2-40/A1)   |                            | N/A |
| CC.4 | Storage of equipment/appliances<br>(IEC 60335-2-40/A1)  |                            | N/A |
| CC.5 | Storage of packed (unsold) equipment<br>(IEC 60335-2-40/A1)   |                            | N/A |

| IEC 60335-2-40 |                    |        |         |
|----------------|--------------------|--------|---------|
| Clause         | Requirement – Test | Result | Verdict |

|           |  |  |     |
|-----------|--|--|-----|
| <b>DD</b> | <b>ANNEX DD (NORMATIVE) (IEC 60335-2-40/A1)<br/>SERVICE OPERATIONS</b> |  | —   |
| DD.1      | Generals (IEC 60335-2-40/A1)   | Intended for the use of a non-flammable refrigerant. | N/A |
| DD.2      | Symbols (IEC 60335-2-40/A1)  |  | N/A |
| DD.3      | Information in manual (IEC 60335-2-40/A1 corr.1)                       |  | N/A |
| DD.4      | Information on servicing (IEC 60335-2-40/A1)                           |  | N/A |
| DD.5      | Repairs to sealed components (IEC 60335-2-40/A1)                       |  | N/A |
| DD.6      | Repair to intrinsically safe components (IEC 60335-2-40/A1)            |  | N/A |
| DD.7      | Cabling (IEC 60335-2-40/A1)  |  | N/A |
| DD.8      | Detection of flammable refrigerants (IEC 60335-2-40/A1)                |  | N/A |
| DD.9      | Leak detection methods (IEC 60335-2-40/A1)                             |  | N/A |
| DD.10     | Removal and evacuation (IEC 60335-2-40/A1)                             |  | N/A |
| DD.11     | Charging procedures (IEC 60335-2-40/A1)                                |  | N/A |
| DD.12     | Decommissioning (IEC 60335-2-40/A1)                                    |  | N/A |
| DD.13     | Labelling (IEC 60335-2-40/A1)  |  | N/A |
| DD.14     | Recovery (IEC 60335-2-40/A1)   |  | N/A |

|           |  |  |     |
|-----------|--|--|-----|
| <b>EE</b> | <b>ANNEX EE (NORMATIVE) (IEC 60335-2-40/A1)<br/>PRESSURE TESTS</b>                                       |  | —   |
| EE.1      | General (IEC 60335-2-40/A1)  | Test location:<br>Considered heat exchangers of indoor unit.<br><br>Test result:<br>No leakage. No hazard. | P   |
| EE.2      | Pressure test value determined under testing carried out in clause 11 (IEC 60335-2-40/A1)                |  | N/A |
| EE.3      | Pressure test value determined under testing carried out in clause 19 (IEC 60335-2-40/A1)                |  | N/A |
| EE.4      | Pressure test value determined under testing carried out under standstill conditions (IEC 60335-2-40/A1) |  | N/A |
| EE.5      | Fatigue test option for Clauses EE.1 and EE.4.1 (IEC 60335-2-40/A1)                                      | Rated compressive strength: 15,2 MPa<br>Measured compressive strength: 16,5 MPa<br>250 000 cycles.         | P   |

| IEC 60335-2-40 |                    |        |         |
|----------------|--------------------|--------|---------|
| Clause         | Requirement – Test | Result | Verdict |

|           |   |  |     |
|-----------|---|--|-----|
| <b>FF</b> | <b>ANNEX FF (NORMATIVE) (IEC 60335-2-40/A1)<br/>LEAK SIMULATION TESTS</b> |  | —   |
| FF.1      | General (IEC 60335-2-40/A1)   | Intended for the use of a non-flammable refrigerant. | N/A |
| FF.2      | Test methods (IEC 60335-2-40/A1 corr.1)                                   |  | N/A |

|           |   |  |     |
|-----------|---|--|-----|
| <b>GG</b> | <b>ANNEX GG (NORMATIVE) (IEC 60335-2-40/A1)<br/>CHARGE LIMITS, VENTILATION REQUIREMENTS AND REQUIREMENTS FOR<br/>SECONDARY CIRCUITS</b> |  | —   |
| GG.1      | Requirements for charge limits in ventilated areas (IEC 60335-2-40/A1 Corr.1)   | Intended for the use of a non-flammable refrigerant. | N/A |
| GG.2      | Requirements for charge limits in unventilated areas (IEC 60335-2-40/A1 Corr.1)   |  | N/A |
| GG.3      | Requirements for charge limits in areas with mechanical ventilation (IEC 60335-2-40/A1)   |  | N/A |
| GG.4      | Requirements for mechanical ventilation within the appliance enclosure (IEC 60335-2-40/A1)  |  | N/A |
| GG.5      | Requirements for mechanical ventilation for rooms complying with ISO 5149 (IEC 60335-2-40/A1)   |  | N/A |
| GG.6      | Requirements for refrigeration systems employing secondary heat exchangers (IEC 60335-2-40/A1 Corr.1)                                   |  | N/A |
| GG.7      | The appliance shall then be tested with a maximum water flow under the conditions described in g) (IEC 60335-2-40/A1)                   |  | N/A |

| <b>ANNEX EMF (EN 62233)</b> |   |                       |   |
|-----------------------------|---|-----------------------|---|
|                             | The Tested product also complies to the requirements of EN 62233:2008 |                       | — |
|                             | Measuring distance (cm).....:   | 30 cm, Around.        | P |
|                             | Background noise level (%).....:                                      | Less than 0.5 %       | P |
|                             | Limit .....100%   | Measured max. : 2.1 % | P |

|   |   |             |                |                |                         |          |
|---|---|-------------|----------------|----------------|-------------------------|----------|
| <b>10.1</b>   | <b>TABLE: Power input deviation <sup>1)</sup></b> |             |                |                |                         | <b>P</b> |
| Input deviation of/at:  |   | P rated (W) | P measured (W) | $\Delta P$ (%) | Required $\Delta P$ (%) | Remark   |
| 220V~ 50Hz  |   | 385         | 360.0          | -6.5           | +20                     | Pass     |
| 230V~ 50Hz  |   | 385         | 370.0          | -3.9           | +20                     | Pass     |
| 240V~ 50Hz  |   | 385         | 390.0          | +1.3           | +20                     | Pass     |
| <b>10.2</b>   | <b>TABLE: Current deviation <sup>1)</sup></b>     |             |                |                |                         | <b>P</b> |
| Current deviation of/at   |   | I rated (A) | I measured (A) | $\Delta I$ (%) | Required $\Delta I$ (%) | Remark   |
| 220V~ 50Hz  |   | 3.0         | 3.00           | 0.0            | +20                     | Pass     |
| 230V~ 50Hz  |   | 3.0         | 2.90           | -3.3           | +20                     | Pass     |
| 240V~ 50Hz  |   | 3.0         | 2.98           | -0.8           | +20                     | Pass     |
| supplementary information:<br>This is for the model of indoor unit, AM140FNHDEH.<br><sup>1)</sup> Measured maximum value under the test condition as below:<br>a) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 27 / 19<br>- Room temperature, outdoor DB/WB (°C): 35 / 24<br>b) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 29 / 19<br>- Room temperature, outdoor DB/WB (°C): 46 / 24<br>c) for highest heating,<br>- Room temperature, indoor DB/WB (°C): 20 / 15<br>- Room temperature, outdoor DB/WB (°C): 7 / 6 |   |             |                |                |                         |          |



|   |   |             |                |                |                         |          |
|---|---|-------------|----------------|----------------|-------------------------|----------|
| <b>10.1</b>   | <b>TABLE: Power input deviation <sup>1)</sup></b> |             |                |                |                         | <b>P</b> |
| Input deviation of/at:  |   | P rated (W) | P measured (W) | $\Delta P$ (%) | Required $\Delta P$ (%) | Remark   |
| 220V~ 50Hz  |   | 333         | 308.0          | -7.5           | +20                     | Pass     |
| 230V~ 50Hz  |   | 333         | 318.0          | -4.5           | +20                     | Pass     |
| 240V~ 50Hz  |   | 333         | 338.0          | +1.5           | +20                     | Pass     |
| <b>10.2</b>   | <b>TABLE: Current deviation <sup>1)</sup></b>     |             |                |                |                         | <b>P</b> |
| Current deviation of/at   |   | I rated (A) | I measured (A) | $\Delta I$ (%) | Required $\Delta I$ (%) | Remark   |
| 220V~ 50Hz  |   | 2.58        | 2.56           | -0.6           | +20                     | Pass     |
| 230V~ 50Hz  |   | 2.58        | 2.50           | -3.1           | +20                     | Pass     |
| 240V~ 50Hz  |   | 2.58        | 2.58           | 0.0            | +20                     | Pass     |
| supplementary information:<br>This is for the model of indoor unit, AM128FNHDEH.<br><sup>1)</sup> Measured maximum value under the test condition as below:<br>a) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 27 / 19<br>- Room temperature, outdoor DB/WB (°C): 35 / 24<br>b) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 29 / 19<br>- Room temperature, outdoor DB/WB (°C): 46 / 24<br>c) for highest heating,<br>- Room temperature, indoor DB/WB (°C): 20 / 15<br>- Room temperature, outdoor DB/WB (°C): 7 / 6 |   |             |                |                |                         |          |

|   |   |             |                |                |                         |          |
|---|---|-------------|----------------|----------------|-------------------------|----------|
| <b>10.1</b>   | <b>TABLE: Power input deviation <sup>1)</sup></b> |             |                |                |                         | <b>P</b> |
| Input deviation of/at:  |   | P rated (W) | P measured (W) | $\Delta P$ (%) | Required $\Delta P$ (%) | Remark   |
| 220V~ 50Hz  |   | 305         | 278.0          | -8.9           | +20                     | Pass     |
| 230V~ 50Hz  |   | 305         | 288.0          | -5.6           | +20                     | Pass     |
| 240V~ 50Hz  |   | 305         | 308.0          | +1.0           | +20                     | Pass     |
| <b>10.2</b>   | <b>TABLE: Current deviation <sup>1)</sup></b>     |             |                |                |                         | <b>P</b> |
| Current deviation of/at   |   | I rated (A) | I measured (A) | $\Delta I$ (%) | Required $\Delta I$ (%) | Remark   |
| 220V~ 50Hz  |   | 2.35        | 2.31           | -1.5           | +20                     | Pass     |
| 230V~ 50Hz  |   | 2.35        | 2.29           | -2.6           | +20                     | Pass     |
| 240V~ 50Hz  |   | 2.35        | 2.35           | 0.0            | +20                     | Pass     |
| supplementary information:<br>This is for the model of indoor unit, AM112FNHDEH.<br><sup>1)</sup> Measured maximum value under the test condition as below:<br>a) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 27 / 19<br>- Room temperature, outdoor DB/WB (°C): 35 / 24<br>b) for lowest cooling,<br>- Room temperature, indoor DB/WB (°C): 29 / 19<br>- Room temperature, outdoor DB/WB (°C): 46 / 24<br>c) for highest heating,<br>- Room temperature, indoor DB/WB (°C): 20 / 15<br>- Room temperature, outdoor DB/WB (°C): 7 / 6 |   |             |                |                |                         |          |

|  |   |   |             |
|--|---|---|-------------|
| <b>11.8</b>  | <b>TABLE: Heating test, thermocouples</b> |   | <b>P</b>    |
|  | Test voltage (V) .....                    | 254,4V (=1,06 x 240V) 50Hz                              | —           |
|  | Ambient, t <sub>1</sub> (°C) .....        | Indoor (DB / WB): 27 / 19<br>Outdoor (DB / WB): 35 / 24 | —           |
|  | Ambient, t <sub>2</sub> (°C) .....        | Indoor (DB / WB): 27 / 19<br>Outdoor (DB / WB): 35 / 24 | —           |
| Thermocouple locations   |   | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |   | 37.8  | 150         |
| Enclosure of indoor fan motor2   |   | 37.2  | 150         |
| Interconnection cord separation  |   | 27.5  | 75          |
| Terminal block   |   | 30.4  | 85          |
| Choke coil (BLDC module)   |   | 41.3  | T120        |
| X-capacitor (X701) (BLDC module)   |   | 39.6  | T100        |
| Reactor  |   | 41.6  | 165 (Cl.H)  |
| Fuse holder (BLDC module)  |   | 31.2  | See cl.30.1 |
| Y-capacitor (BLDC module)  |   | 40.3  | -           |
| Electrolytic capacitor (BLDC module)   |   | 30.0  | T85         |
| Connector (CN71) (BLDC module)   |   | 29.9  | See cl.30.1 |
| PCB surface (BLDC module)  |   | 43.3  | 145         |
| Switching transformer winding  |   | 31.4  | T130        |
| Electrolytic capacitor   |   | 37.6  | T85         |
| Choke coil (L101)  |   | 31.5  | T120        |
| X-capacitor (CX101)  |   | 26.8  | T100        |
| Fuse holder  |   | 29.8  | See cl.30.1 |
| Relay (RY701)  |   | 35.4  | T70         |
| PCB surface  |   | 33.4  | 145         |
| External enclosure   |   | 27.9  | 85          |
| supplementary information:   |   |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |   |   |             |
| 2) Test condition: Lowest cooling under the climatic class T1.   |   |   |             |

|  |   |   |             |
|--|---|---|-------------|
| 11.8   | <b>TABLE: Heating test, thermocouples</b> |   | P           |
|  | Test voltage (V) .....                    | 254,4V (=1,06 x 240V) 50Hz                              | —           |
|  | Ambient, t <sub>1</sub> (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
|  | Ambient, t <sub>2</sub> (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
| Thermocouple locations   |   | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |   | 39.3  | 150         |
| Enclosure of indoor fan motor2   |   | 38.8  | 150         |
| Interconnection cord separation  |   | 29.5  | 75          |
| Terminal block   |   | 32.1  | 85          |
| Choke coil (BLDC module)   |   | 42.5  | T120        |
| X-capacitor (X701) (BLDC module)   |   | 41.0  | T100        |
| Reactor  |   | 42.9  | 165 (Cl.H)  |
| Fuse holder (BLDC module)  |   | 32.9  | See cl.30.1 |
| Y-capacitor (BLDC module)  |   | 41.7  | -           |
| Electrolytic capacitor (BLDC module)   |   | 32.1  | T85         |
| Connector (CN71) (BLDC module)   |   | 31.8  | See cl.30.1 |
| PCB surface (BLDC module)  |   | 44.7  | 145         |
| Switching transformer winding  |   | 33.6  | T130        |
| Electrolytic capacitor   |   | 39.2  | T85         |
| Choke coil (L101)  |   | 33.4  | T120        |
| X-capacitor (CX101)  |   | 28.9  | T100        |
| Fuse holder  |   | 31.7  | See cl.30.1 |
| Relay (RY701)  |   | 37.2  | T70         |
| PCB surface  |   | 35.5  | 145         |
| External enclosure   |   | 30.0  | 85          |
| supplementary information:   |   |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |   |   |             |
| 2) Test condition: Lowest cooling under the climatic class T3.   |   |   |             |

|  |   |   |             |
|--|---|---|-------------|
| 11.8   | <b>TABLE: Heating test, thermocouples</b> |   | P           |
|  | Test voltage (V) .....                    | 254,4V (=1,06 x 240V) 50Hz                            | —           |
|  | Ambient, t <sub>1</sub> (°C) .....        | Indoor (DB / WB): 20 / 15<br>Outdoor (DB / WB): 7 / 6 | —           |
|  | Ambient, t <sub>2</sub> (°C) .....        | Indoor (DB / WB): 20 / 15<br>Outdoor (DB / WB): 7 / 6 | —           |
| Thermocouple locations   |   | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |   | 28.8  | 150         |
| Enclosure of indoor fan motor2   |   | 27.5  | 150         |
| Interconnection cord separation  |   | 20.3  | 75          |
| Terminal block   |   | 23.3  | 85          |
| Choke coil (BLDC module)   |   | 34.3  | T120        |
| X-capacitor (X701) (BLDC module)   |   | 32.4  | T100        |
| Reactor  |   | 34.8  | 165 (Cl.H)  |
| Fuse holder (BLDC module)  |   | 23.9  | See cl.30.1 |
| Y-capacitor (BLDC module)  |   | 33.6  | -           |
| Electrolytic capacitor (BLDC module)   |   | 22.8  | T85         |
| Connector (CN71) (BLDC module)   |   | 22.6  | See cl.30.1 |
| PCB surface (BLDC module)  |   | 36.5  | 145         |
| Switching transformer winding  |   | 24.0  | T130        |
| Electrolytic capacitor   |   | 31.0  | T85         |
| Choke coil (L101)  |   | 24.4  | T120        |
| X-capacitor (CX101)  |   | 19.8  | T100        |
| Fuse holder  |   | 22.5  | See cl.30.1 |
| Relay (RY701)  |   | 28.5  | T70         |
| PCB surface  |   | 26.3  | 145         |
| External enclosure   |   | 20.6  | 85          |
| supplementary information:   |   |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |   |   |             |
| 2) Test condition: Highest heating.  |   |   |             |

|  |   |                       |                     |
|--|---|-----------------------|---------------------|
| <b>13.2</b>  | <b>TABLE: Leakage current</b>   |                       | <b>P</b>            |
|  | Heating appliances: 1,15 x rated power input .....                    | -                     | —                   |
|  | Motor-operated and combined appliances:<br>1,06 x rated voltage ..... | 254,4V (=1,06 x 240V) | —                   |
| Leakage current between  |   | I (mA)                | Max. allowed I (mA) |
| Stand-by mode  |   | --                    | --                  |
| Live line to heat exchanger (Stand-by)   |   | 0.62                  | 10.0 <sup>1)</sup>  |
| Neutral line to heat exchanger (Stand-by)  |   | 0.61                  | 10.0 <sup>1)</sup>  |
| Cooling mode   |   | --                    | --                  |
| Live line to heat exchanger (Operating)  |   | 0.62                  | 10.0 <sup>1)</sup>  |
| Neutral line to heat exchanger (Operating)   |   | 0.61                  | 10.0 <sup>1)</sup>  |
| Live line to metal foil of non-metallic part (Operating)   |   | 0.01                  | 0.25                |
| Neutral line to metal foil of non-metallic part (Operating)  |   | 0.01                  | 0.25                |
| Heating mode   |   | --                    | --                  |
| Live line to heat exchanger (Operating)  |   | 0.61                  | 10.0 <sup>1)</sup>  |
| Neutral line to heat exchanger (Operating)   |   | 0.61                  | 10.0 <sup>1)</sup>  |
| Live line to metal foil of non-metallic part (Operating)   |   | 0.01                  | 0.25                |
| Neutral line to metal foil of non-metallic part (Operating)  |   | 0.01                  | 0.25                |
| supplementary information:<br><sup>1)</sup> The maximum allowed limit can be less than 10mA considering the rated maximum power input based on the combination of indoor unit and outdoor unit.<br>- for AM100FXVAGH (outdoor unit); 6.80 kW (cooling, T1) /6.70 kW (heating)<br>Required limit: 2mA/kW per each operating mode, but with a maximum value of 10 mA.<br>This appliance is not intended to be installed where accessible to the general public, but in this test report the leakage current is limited to the requirement of an appliance which may be accessible to the general public. |   |                       |                     |

|  |                                 |             |                    |
|--|---------------------------------|-------------|--------------------|
| <b>13.3</b>  | <b>TABLE: Electric strength</b> |             | <b>P</b>           |
| Test voltage applied between:                                    |                                 | Voltage (V) | Breakdown (Yes/No) |
| Line to heat exchanger of indoor unit (Basic insulation)         |                                 | 1000        | No                 |
| Line to metallic enclosure of indoor unit (Basic insulation)     |                                 | 1000        | No                 |
| Line to non-metallic part of indoor unit (Reinforced insulation) |                                 | 3000        | No                 |
| supplementary information:                                       |                                 |             |                    |

|  |                                      |         |                  |                           |                          |                    |
|--|--------------------------------------|---------|------------------|---------------------------|--------------------------|--------------------|
| <b>14</b>                                  | <b>TABLE: Transient overvoltages</b> |         |                  |                           |                          | <b>N/A</b>         |
| Clearance between:                         |                                      | CI (mm) | Required CI (mm) | Rated impulse voltage (V) | Impulse test voltage (V) | Flashover (Yes/No) |
| --   |                                      | --      | --               | --                        | --                       | --                 |
| supplementary information: Not applicable. |                                      |         |                  |                           |                          |                    |



|   |   |                       |                     |
|---|---|-----------------------|---------------------|
| <b>16.2</b>   | <b>TABLE: Leakage current</b>   |                       | <b>P</b>            |
|   | Single phase appliances: 1,06 x rated voltage .....:                      | 254,4V (=1,06 x 240V) | —                   |
|   | Three phase appliances 1,06 x rated voltage divided by $\sqrt{3}$ : ..... | -                     | —                   |
| Leakage current between   |   | I (mA)                | Max. allowed I (mA) |
| Lines to heat exchanger   |   | 0.90                  | 10.0 <sup>1)</sup>  |
| Lines to metal foil of non-metallic part  |   | 0.01                  | 0.25                |
| supplementary information:<br><sup>1)</sup> The maximum allowed limit can be less than 10mA considering the rated maximum power input based on the combination of indoor unit and outdoor unit.<br>- for AM100FXVAGH (outdoor unit); 6.80 kW (cooling, T1) / 6.70 kW (heating)<br>Required limit: 2mA/kW per each operating mode, but with a maximum value of 10 mA.<br>This appliance is not intended to be installed where accessible to the general public, but in this test report the leakage current is limited to the requirement of an appliance which may be accessible to the general public. |   |                       |                     |

|  |                                 |             |                    |
|--|---------------------------------|-------------|--------------------|
| <b>16.3</b>  | <b>TABLE: Electric strength</b> |             | <b>P</b>           |
| Test voltage applied between:                                    |                                 | Voltage (V) | Breakdown (Yes/No) |
| Line to heat exchanger of indoor unit (Basic insulation)         |                                 | 1250        | No                 |
| Line to metallic enclosure of indoor unit (Basic insulation)     |                                 | 1250        | No                 |
| Line to non-metallic part of indoor unit (Reinforced insulation) |                                 | 3000        | No                 |
| supplementary information:                                       |                                 |             |                    |

|                              |   |                |                     |
|------------------------------|---|----------------|---------------------|
| <b>17</b>                    | <b>TABLE: Overload protection, temperature rise</b> |                | <b>N/A</b>          |
| Temperature rise of part/at: |   | $\Delta T$ (K) | Max. $\Delta T$ (K) |
| --                           |   | --             | --                  |
| --                           |   | --             | --                  |
| supplementary information:   |   |                |                     |

|  |                                  |   |             |
|--|----------------------------------|---|-------------|
| <b>19.5</b>  | <b>TABLE: Abnormal operation</b> |   | <b>P</b>    |
|  | Test voltage (V).....:           | 240V 50Hz   | —           |
|  | Ambient, $t_1$ (°C) .....        | Indoor (DB / WB): 23 / (15)<br>Outdoor (DB / WB): 23 / (15) | —           |
|  | Ambient, $t_2$ (°C) .....        | Indoor (DB / WB): 23 / (15)<br>Outdoor (DB / WB): 23 / (15) | —           |
| Thermocouple locations   |                                  | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |                                  | 32.4  | 150         |
| Enclosure of indoor fan motor2   |                                  | 32.7  | 150         |
| Interconnection cord separation  |                                  | 22.9  | -           |
| Terminal block   |                                  | 27.1  |             |
| Choke coil (BLDC module)   |                                  | 36.0  | -           |
| X-capacitor (X701) (BLDC module)   |                                  | 32.9  | -           |
| Reactor  |                                  | 39.7  | -           |
| Fuse holder (BLDC module)  |                                  | 27.9  | -           |
| Y-capacitor (BLDC module)  |                                  | 35.0  | -           |
| Electrolytic capacitor (BLDC module)   |                                  | 24.1  | -           |
| Connector (CN71) (BLDC module)   |                                  | 24.4  | -           |
| PCB surface (BLDC module)  |                                  | 38.3  | -           |
| Switching transformer winding  |                                  | 25.4  | -           |
| Electrolytic capacitor   |                                  | 30.3  | -           |
| Choke coil (L101)  |                                  | 26.4  | -           |
| X-capacitor (CX101)  |                                  | 22.4  | -           |
| Fuse holder  |                                  | 24.7  | -           |
| Relay (RY701)  |                                  | 30.0  | -           |
| PCB surface  |                                  | 27.9  | -           |
| External enclosure   |                                  | 23.1  | 175         |
| supplementary information:   |                                  |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |                                  |   |             |
| 2) Test condition: Lowest cooling with the air-inlet to heat exchanger of indoor unit being blocked.     |                                  |   |             |

|  |                                    |   |             |
|--|------------------------------------|---|-------------|
| <b>19.5</b>  | <b>TABLE: Abnormal operation</b>   |   | <b>P</b>    |
|  | Test voltage (V).....:             | 240V 50Hz   | —           |
|  | Ambient, t <sub>1</sub> (°C) ..... | Indoor (DB / WB): 23 / (15)<br>Outdoor (DB / WB): 23 / (15) | —           |
|  | Ambient, t <sub>2</sub> (°C) ..... | Indoor (DB / WB): 23 / (15)<br>Outdoor (DB / WB): 23 / (15) | —           |
| Thermocouple locations   |                                    | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |                                    | 76.9  | 150         |
| Enclosure of indoor fan motor2   |                                    | 80.5  | 150         |
| Interconnection cord separation  |                                    | 29.2  | -           |
| Terminal block   |                                    | 32.2  |             |
| Choke coil (BLDC module)   |                                    | 40.8  | -           |
| X-capacitor (X701) (BLDC module)   |                                    | 39.5  | -           |
| Reactor  |                                    | 42.7  | -           |
| Fuse holder (BLDC module)  |                                    | 31.9  | -           |
| Y-capacitor (BLDC module)  |                                    | 41.4  | -           |
| Electrolytic capacitor (BLDC module)   |                                    | 32.4  | -           |
| Connector (CN71) (BLDC module)   |                                    | 32.0  | -           |
| PCB surface (BLDC module)  |                                    | 43.0  | -           |
| Switching transformer winding  |                                    | 34.6  | -           |
| Electrolytic capacitor   |                                    | 40.8  | -           |
| Choke coil (L101)  |                                    | 33.8  | -           |
| X-capacitor (CX101)  |                                    | 28.7  | -           |
| Fuse holder  |                                    | 31.9  | -           |
| Relay (RY701)  |                                    | 38.2  | -           |
| PCB surface  |                                    | 36.5  | -           |
| External enclosure   |                                    | 30.3  | 175         |
| supplementary information:   |                                    |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |                                    |   |             |
| 2) Test condition: Lowest cooling with the air-inlet to heat exchanger of outdoor unit being blocked.    |                                    |   |             |

|  |                                  |   |             |
|--|----------------------------------|---|-------------|
| <b>19.7</b>  | <b>TABLE: Abnormal operation</b> |   | <b>P</b>    |
|  | Test voltage (V) .....           | 240V 50Hz   | —           |
|  | Ambient, $t_1$ (°C) .....        | Indoor (DB / WB): 39 / (29)<br>Outdoor (DB / WB): 56 / (34) | —           |
|  | Ambient, $t_2$ (°C) .....        | Indoor (DB / WB): 39 / (29)<br>Outdoor (DB / WB): 56 / (34) | —           |
| Thermocouple locations   |                                  | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |                                  | 58.6  | 150         |
| Enclosure of indoor fan motor2   |                                  | 58.5  | 150         |
| Interconnection cord separation  |                                  | 39.3  | -           |
| Terminal block   |                                  | 42.1  | -           |
| Choke coil (BLDC module)   |                                  | 52.6  | -           |
| X-capacitor (X701) (BLDC module)   |                                  | 50.6  | -           |
| Reactor  |                                  | 52.1  | -           |
| Fuse holder (BLDC module)  |                                  | 42.8  | -           |
| Y-capacitor (BLDC module)  |                                  | 51.9  | -           |
| Electrolytic capacitor (BLDC module)   |                                  | 41.8  | -           |
| Connector (CN71) (BLDC module)   |                                  | 41.5  | -           |
| PCB surface (BLDC module)  |                                  | 53.8  | -           |
| Switching transformer winding  |                                  | 43.1  | -           |
| Electrolytic capacitor   |                                  | 48.4  | -           |
| Choke coil (L101)  |                                  | 43.1  | -           |
| X-capacitor (CX101)  |                                  | 38.7  | -           |
| Fuse holder  |                                  | 41.5  | -           |
| Relay (RY701)  |                                  | 46.0  | -           |
| PCB surface  |                                  | 44.2  | -           |
| External enclosure   |                                  | 39.7  | 175         |
| supplementary information:   |                                  |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit, |                                  |   |             |
| 2) Test condition: Lowest cooling with +10K  |                                  |   |             |

|  |                                  |   |             |
|--|----------------------------------|---|-------------|
| <b>19.10</b>   | <b>TABLE: Abnormal operation</b> |   | <b>P</b>    |
|  | Test voltage (V) .....           | 240V 50Hz   | —           |
|  | Ambient, $t_1$ (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
|  | Ambient, $t_2$ (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
| Thermocouple locations   |                                  | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |                                  | 64.7  | 150         |
| Enclosure of indoor fan motor2   |                                  | 40.6  | 150         |
| Interconnection cord separation  |                                  | 29.1  | -           |
| Terminal block   |                                  | 31.5  | -           |
| Choke coil (BLDC module)   |                                  | 37.0  | -           |
| X-capacitor (X701) (BLDC module)   |                                  | 36.1  | -           |
| Reactor  |                                  | 40.1  | -           |
| Fuse holder (BLDC module)  |                                  | 33.9  | -           |
| Y-capacitor (BLDC module)  |                                  | 42.4  | -           |
| Electrolytic capacitor (BLDC module)   |                                  | 32.7  | -           |
| Connector (CN71) (BLDC module)   |                                  | 31.3  | -           |
| PCB surface (BLDC module)  |                                  | 40.5  | -           |
| Switching transformer winding  |                                  | 34.8  | -           |
| Electrolytic capacitor   |                                  | 41.3  | -           |
| Choke coil (L101)  |                                  | 33.5  | -           |
| X-capacitor (CX101)  |                                  | 28.7  | -           |
| Fuse holder  |                                  | 31.4  | -           |
| Relay (RY701)  |                                  | 36.9  | -           |
| PCB surface  |                                  | 35.4  | -           |
| External enclosure   |                                  | 30.2  | 175         |
| supplementary information:   |                                  |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |                                  |   |             |
| 2) Test condition:   |                                  |   |             |
| Lowest cooling with the motor rotor of indoor unit being locked.   |                                  |   |             |

|  |                                  |   |             |
|--|----------------------------------|---|-------------|
| <b>19.10</b>   | <b>TABLE: Abnormal operation</b> |   | <b>P</b>    |
|  | Test voltage (V) .....           | 240V 50Hz   | —           |
|  | Ambient, $t_1$ (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
|  | Ambient, $t_2$ (°C) .....        | Indoor (DB / WB): 29 / 19<br>Outdoor (DB / WB): 46 / 24 | —           |
| Thermocouple locations   |                                  | T (°C)  | Max. T (°C) |
| Enclosure of indoor fan motor1   |                                  | 52.9  | 150         |
| Enclosure of indoor fan motor2   |                                  | 50.6  | 150         |
| Interconnection cord separation  |                                  | 29.1  | -           |
| Terminal block   |                                  | 32.5  | -           |
| Choke coil (BLDC module)   |                                  | 46.6  | -           |
| X-capacitor (X701) (BLDC module)   |                                  | 41.8  | -           |
| Reactor  |                                  | 46.3  | -           |
| Fuse holder (BLDC module)  |                                  | 31.3  | -           |
| Y-capacitor (BLDC module)  |                                  | 39.7  | -           |
| Electrolytic capacitor (BLDC module)   |                                  | 31.5  | -           |
| Connector (CN71) (BLDC module)   |                                  | 31.1  | -           |
| PCB surface (BLDC module)  |                                  | 44.9  | -           |
| Switching transformer winding  |                                  | 32.7  | -           |
| Electrolytic capacitor   |                                  | 38.6  | -           |
| Choke coil (L101)  |                                  | 33.2  | -           |
| X-capacitor (CX101)  |                                  | 28.6  | -           |
| Fuse holder  |                                  | 31.3  | -           |
| Relay (RY701)  |                                  | 37.3  | -           |
| PCB surface  |                                  | 35.4  | -           |
| External enclosure   |                                  | 29.6  | 175         |
| supplementary information:   |                                  |   |             |
| 1) This is for the representative model of indoor unit, AM140FNHDEH in connection with the outdoor unit. |                                  |   |             |
| 2) Test condition:   |                                  |   |             |
| Lowest cooling with the motor rotor of outdoor unit being locked.  |                                  |   |             |

| 19.11  | <b>TABLE: abnormal operation</b><br>The following fault conditions are introduced: |              | P   |
|--|--|--------------|---|
| Test input (V)   | 240V 50Hz (at upper rated voltage)   |              |   |
| Component  | Fault condition  |              | Result  |
|  | Short circuit  | Open circuit |   |
| Transformer<br>(secondary output)  | S-c  | -            | - Thermal link for transformer open.<br>- Max. temp. of winding: 110°C<br>- No deterioration of insulation.<br>- No hazard. |
| Electrolytic capacitor<br>(CE101)  | S-c  | -            | - Fuse (F100) open.<br>- No hazard.   |
| Electrolytic capacitor<br>(CE101)  | -  | O-c          | - Normal operation, no components damaged.<br>- No hazard.  |
| Electrolytic capacitor<br>(CE103)  | S-c  | -            | - Max. temp. of IC01 (KA7812): 120°C<br>- No excessive temperature rises.<br>- No hazard.                                   |
| Electrolytic capacitor<br>(CE103)  | -  | O-c          | - Normal operation, no components damaged.<br>- No hazard.  |
| Electrolytic capacitor<br>(CE105)  | S-c  | -            | - Max. temp. of IC02 (KA7805): 130°C<br>- No excessive temperature rises.<br>- No hazard.                                   |
| Electrolytic capacitor<br>(CE105)  | -  | O-c          | - Normal operation, no components damaged.<br>- No hazard.  |
| MICOM<br>(IC04, pin 43 - pin 42)   | S-c  | -            | - Segment display error.<br>- After removal of short circuit, normal operation.<br>- No components damaged.<br>- No hazard. |
| Diode<br>(D104)  | S-c  | -            | - Fuse (F100) open.<br>- No excessive temperature rises.<br>- No hazard.  |
| Bridge diode<br>(BD101)<br>(pin1(+)-pin3(~))   | S-c  | -            | - Fuses (F100) open.<br>- Bridge diode (BD71) damaged.<br>- No hazard.  |
| Bridge diode<br>(BD101)<br>(pin2(-)-pin4(~))   | S-c  | -            | - Fuses (F100) open.<br>- Bridge diode (BD71) damaged.<br>- No hazard.  |
| - Other part < 15W: no further tests<br>- S-c = Short-circuit, O-c = Open circuit, Dis = Disconnection, O-l = Overload, o/p = output |  |              |   |



|   |                           |        |                 |   |
|---|---------------------------|--------|-----------------|---|
| 19.14   | TABLE: Abnormal operation |        |                 | P |
|   | t <sub>1</sub> (°C).....: | --     | —               |   |
|   | t <sub>2</sub> (°C).....: | --     | —               |   |
| Temperature T of part / at :  |                           | T (°C) | Required T (°C) |   |
| --  |                           | --     | --              |   |
| --  |                           | --     | --              |   |
| supplementary information:<br>See appended table 19.5, 19.7, 19.10 and 19.11.<br>During the testing to cl. 19, no flame, no molten metal, no poisonous/ ignitable gas in hazardous amounts. |                           |        |                 |   |

| 24.1   | TABLE: Components  |                   |  |  |  | P |
|--|--|-------------------|--|--|--|---|
| Object / part No.                                      | Manufacturer/<br>trademark                                   | Type / model      | Technical data   | Standard                                     | Mark(s) of<br>conformity <sup>1)</sup> |   |
| Fan motor for<br>indoor unit                           | SPG Co., Ltd.  | DL-<br>12840SSBF  | Brushless DC<br>type,<br>311Vd.c. 183W<br>Cu winding,<br>Cl. B (Cl. 130) | IEC 60335-1<br>IEC 60335-2-40                | Checked in the<br>appliance            |   |
| Alt.   | SPG Co., Ltd.  | DL-<br>712840SSBG | Brushless DC<br>type,<br>311Vd.c. 183W<br>Cu winding,<br>Cl. B (Cl. 130) | IEC 60335-1<br>IEC 60335-2-40                | Checked in the<br>appliance            |   |
| Alt.   | Changzhou<br>Sinjun Motor Co.,<br>Ltd.                       | ZWD-183-<br>BA02  | Brushless DC<br>type,<br>310Vd.c. 183W<br>Cl. B (Cl. 130)                | IEC 60335-1<br>IEC 60335-2-40                | Checked in<br>the appliance            |   |
| Alt.   | Changzhou<br>Sinjun Motor Co.,<br>Ltd.                       | ZWD-183-<br>BA01  | Brushless DC<br>type,<br>310Vd.c. 183W<br>Cl. B (Cl. 130)                | IEC 60335-1<br>IEC 60335-2-40                | Checked in<br>the appliance            |   |
| Terminal block 1                                       | Nantong Huaguan<br>Electric Co., Ltd.                        | JXW               | 300V, 30A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60998-1 | Checked in the<br>appliance<br>VDE     |   |
| Alt.   | Dong-A Bestech<br>Co., Ltd.                                  | DAF               | 300V, 25A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60998-1 | Checked in the<br>appliance<br>VDE     |   |
| Terminal block 2                                       | Dong-A Bestech<br>Co., Ltd.                                  | DAF-(X)P          | 300V, 25A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60998-1 | Checked in the<br>appliance<br>VDE     |   |
| Alt.   | Dong-A Bestech<br>Co., Ltd.                                  | DAF-S(X)P         | 300V, 20A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60998-1 | Checked in the<br>appliance<br>VDE     |   |
| Alt.   | Zhejiang<br>Changdecheng<br>Electric Appliances<br>Co., Ltd. | JXW series        | 300V, 30A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60998-1 | Checked in the<br>appliance<br>VDE     |   |
| Thermal link<br>incorporated<br>with terminal<br>block | Tamura Thermal<br>Device Corp.                               | N1F               | 250V~ 1A<br>Tf: 86°C   | IEC 60691                                    | VDE                                    |   |
| EEV<br>(Electronic<br>expansion<br>valve)              | Zhejiang Sanhua<br>Co., Ltd                                  | DPF(O)4.0C-<br>04 | 12Vd.c.  | IEC 60335-1<br>IEC 60335-2-40                | Checked in the<br>appliance            |   |
| EEV<br>(Electronic<br>expansion<br>valve)              | Zhejiang Sanhua<br>Co., Ltd                                  | DPF(O)3.2C-<br>08 | 12Vd.c.  | IEC 60335-1<br>IEC 60335-2-40                | Checked in the<br>appliance            |   |

|   |   |                   |  |   |  |   |
|---|---|-------------------|--|---|--|---|
| 24.1  | TABLE: Components                           |                   |  |   |  | P |
| Object / part No.                               | Manufacturer/<br>trademark                  | Type / model      | Technical data   | Standard  | Mark(s) of<br>conformity <sup>1)</sup> |   |
| Optional component: Package name, MDP-E075SEE3D |   |                   |  |   |  |   |
| Drain pump<br>(optional)                        | Shin Han Electro-<br>Mechanics Co.,<br>Ltd  | SDP series        | 12Vd.c.<br>Max. 4.0W<br>Brushless DC<br>type,<br>Cl. E (Cl. 120) | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Components on Main PCB                          |   |                   |  |   |  |   |
| PCB   | Doosan/Kolon                                | DS-7405S          | FR-4, T1.6   | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Alt.  | KINGBOARD CO.                               | KB-6150C          | FR-4, T1.6, V-0  | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Alt.  | KINGBOARD<br>LAMINATES LTD                  | KB-6160C          | FR-4, T1.6, V-0  | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Alt.  | Kunshan Suhang<br>Circuit Board Co.,<br>Ltd | SH-M1             | CEM-3,<br>T1.6, V-0  | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Alt.  | Kunshan Huatao<br>Circuit Board Co.,<br>Ltd | HT-M              | CEM-3,<br>T1.6, V-0  | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance            |   |
| Fuse 1<br>(F100)                                | Littelfuse Inc.                             | TE5 400<br>Series | 250V~ T5A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60127-1<br>IEC 60127-3                                   | Checked in the<br>appliance<br>VDE     |   |
| Varistor<br>(VA101, VA102)                      | Thinking Electronic<br>Industrial Co., Ltd  | TVR 14561         | 560V 4500A<br>350Vrms<br>T85                                     | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | Amotech Co., Ltd                            | INR 14D561        | 560V, 4500A<br>350Vrms<br>T85                                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | Ceramate Techn.<br>Co., Ltd.                | GNR<br>14D561K    | 560V 4500A<br>350Vrms<br>T85                                     | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | Amotech Co., Ltd                            | INR 14D621K       | 620V, 4500A<br>385Vrms<br>T85                                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE     |   |

| 24.1                          |  | TABLE: Components  |  |  |   | P |
|-------------------------------|--|--------------------|--|--|---|---|
| Object / part No.             | Manufacturer/<br>trademark                 | Type / model       | Technical data   | Standard   | Mark(s) of<br>conformity <sup>1)</sup>            |   |
| Varistor<br>(VA103)           | Thinking Electronic<br>Industrial Co., Ltd | TVR 14D681         | 680V, 4500A<br>420Vrms<br>T85  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/-2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                          | Amotech Co., Ltd                           | INR 14D681K        | 680V, 4500A<br>420Vrms<br>T85  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/-2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                          | Ceramate Techn.<br>Co., Ltd.               | GNR<br>14D681K     | 680V, 5000A<br>420Vrms<br>T85  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/-2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Choke coil<br>(L101)          | Sangshin<br>Electronics Co.,<br>Ltd        | SS-0800            | 250V~ 50/60Hz,<br>3A, 8mH<br>- Magnet wire:<br>UEW (105°C)<br>- Bobbin: V-0<br>- Base: V-0 | IEC 60335-1<br>IEC 60335-2-40  | Checked in the<br>appliance                       |   |
| Surge absorber<br>(DSA101)    | Mitsubish<br>Materials Corp.               | DSA-332M           | 3300V ±20%<br>Insulation<br>resistance:<br>Min.100MΩ                                       | IEC 60335-1<br>IEC 60335-2-40  | Checked in the<br>appliance                       |   |
| Alt.                          | Mitsubish<br>Materials Corp.               | DA38-362M          | 3600V ±20%<br>Insulation<br>resistance:<br>Min.100MΩ                                       | IEC 60335-1<br>IEC 60335-2-40  | Checked in the<br>appliance                       |   |
| X-Capacitor<br>(CX101)        | Pilkor Electronics<br>Ltd.                 | PCX2 337<br>Series | 275V~ 0.33uF<br>X2, T85  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14  | Checked in the<br>appliance<br>ENEC 14<br>(SEMKO) |   |
| Alt.                          | Ultra Tech Xiphi<br>Enterprise Co., Ltd    | HQX Series         | 250/ 275V~<br>0.33uF<br>X2, T100   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14  | Checked in the<br>appliance<br>VDE                |   |
| Alt.                          | Joey Electronics<br>(Dongguan) Co.,<br>Ltd | MPX Series         | 275V~ 0.33uF<br>X2, T100   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14  | Checked in the<br>appliance<br>VDE                |   |
| Y-capacitor<br>(CY101, CY102) | SamWha<br>Capacitor Co., Ltd               | SC Series          | 1nF 250V/ 400V<br>0.47nF 250V  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14  | Checked in the<br>appliance<br>VDE                |   |
| Alt.                          | DONG IL<br>Electronics Co.,<br>Ltd.        | DA Series          | 1nF 250V<br>0.47nF 250V  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14  | Checked in the<br>appliance<br>Nemko              |   |

| 24.1                    |   | TABLE: Components |                               |   |  | P |
|-------------------------|---|-------------------|-------------------------------|---|--|---|
| Object / part No.       | Manufacturer/<br>trademark                  | Type / model      | Technical data                | Standard                                      | Mark(s) of<br>conformity <sup>1)</sup> |   |
| Photocoupler<br>(PC101) | Toshiba<br>Corporation                      | TLP181            | -25 – 100°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | Toshiba<br>Corporation                      | TLP180            | -25 – 100°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | NEC Corporation                             | PS2565-1          | -55 – 100°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | Toshiba<br>Corporation                      | TLP351            | -40 – 100°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | SHARP Corp.                                 | PC814             | -30 – 100°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | SHARP Corp.                                 | PC123             | -30 – 100°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | Toshiba<br>Corporation                      | TLP421<br>(D4-BL) | -55 – 100°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | LITE-ON<br>Technology Corp.                 | LTV-356           | -30 – 110°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | Cosmo Electronics<br>Corporation            | KPC357NT0C        | -55 – 115°C<br>Viso= 3750Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Photocoupler<br>(PC102) | Cosmo Electronics<br>Corporation            | K10104C           | -55 – 115°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | EVERLIGHT                                   | EL816             | -55 – 110°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | LITE-ON<br>Technology Corp.                 | LTV-817S          | -30 – 110°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Alt.                    | NEC Corporation                             | PS2561A           | -55 – 100°C<br>Viso= 5000Vrms | IEC 60335-1<br>IEC 60335-2-40<br>EN 60747-5-2 | Checked in the<br>appliance<br>VDE     |   |
| Bridge diode<br>(BD101) | Shindengen<br>Electronics Ltd.              | D3SB60            | 600V 4A<br>150°C              | IEC 60335-1<br>IEC 60335-2-40                 | Checked in the<br>appliance            |   |
| Relay<br>(RY101, RY702) | Tyco Electronics<br>(Shenzhen) Co.,<br>Ltd. | PCJ-<br>112D3MH   | 250V~, 3A,<br>T90, 10E4       | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1  | Checked in the<br>appliance<br>VDE     |   |

| 24.1                                     | TABLE: Components                                    |                     |   |  |  | P |
|--|--|---------------------|---|--|--|---|
| Object / part No.                        | Manufacturer/<br>trademark                           | Type / model        | Technical data  | Standard   | Mark(s) of<br>conformity <sup>1)</sup>     |   |
| Alt.                                     | Fujitsu Component<br>Limited                         | FTR-<br>F3AA012E    | 250V~, 3A,<br>T70, 20E4   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | Tyco Electronics<br>(Shenzhen) Co.,<br>Ltd.          | EJ00-1A4-<br>D012-F | 250V~, 3A,<br>T70, 3E4  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | Tyco Electronics<br>(Shenzhen) Co.,<br>Ltd.          | OJ-SS-112DM         | 250V~, 5A,<br>T70, 6E4  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE, TUV Rh |   |
| Alt.                                     | In & Out Electronic<br>Corporation                   | GC-12VDC-<br>A45    | 250V~, 5A,<br>T75, 1E5  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | Xiamen Hongfa<br>Electroacoustics                    | HF46F12-<br>HS1T    | 250V~, 5A,<br>T85, 2E5  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | OMRON Corp.  | G5NB-1A-E           | 250V~, 5A,<br>T85, 1E5  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | OMRON Corp.  | G5T-1A              | 250V~, 5A,<br>T70, 3E4  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | Panasonic Electric<br>Works Co., Ltd                 | ALD112              | 250V~ 3A,<br>T70, 2E5   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| Alt.                                     | Panasonic Electric<br>Works Co., Ltd                 | ALDP112             | 250V~ 5A,<br>T70, 2E5   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61810-1                   | Checked in the<br>appliance<br>VDE         |   |
| AC Connector<br>(CN101, CN702,<br>CN703) | YeonHo<br>Electronics Co.                            | Y(H)W396<br>Series  | 250V~ 7.5A<br>-55 – 125 °C  | IEC 60335-1<br>IEC 60335-2-40                                  | Checked in the<br>appliance                |   |
| Reactor                                  | Foshan Welling<br>Electronic And<br>Electric Co.,Ltd | DB27-00041B         | 5mH, 10A,<br>50/60Hz<br>Cl. H (Cl.180)  | IEC 60335-1<br>IEC 60335-2-40                                  | Checked in the<br>appliance                |   |
| Alt.                                     | Qingdao Yunlu<br>Enegy Technology<br>Co., Ltd.       | DB27-00041B         | 5 mH, 10 A,<br>50/60 Hz<br>Cl. H (Cl.180)   | IEC 60335-1<br>IEC 60335-2-40                                  | Checked in the<br>appliance                |   |
| Switching<br>transformer<br>(T101)       | Wonkyung<br>Electronics Co.,<br>Ltd                  | DB26-00131A         | - 490uH<br>- Core: EE2218<br>- Bobbin:<br>Phenolic, V-0<br>- Winding: 2UEW<br>- Cl. B (Cl. 130) | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61558-1<br>IEC 61558-2-16 | Checked in the<br>appliance                |   |

| 24.1                   |   | TABLE: Components |  |   |  | P |
|------------------------|---|-------------------|--|---|--|---|
| Object / part No.      | Manufacturer/<br>trademark              | Type / model      | Technical data   | Standard  | Mark(s) of<br>conformity <sup>1)</sup> |   |
| Alt.                   | Namyang Electronics Co., Ltd            | DB26-00131A       | - 530uH<br>- Core: EE2525<br>- Bobbin: Phenolic, V-0<br>- Winding: 2UEW<br>- Cl. B (Cl. 130) | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61558-1<br>IEC 61558-2-16                                | Checked in the appliance               |   |
| Components on BLDC PCB |   |                   |  |   |  |   |
| PCB                    | Doosan/Kolon                            | DS-7405S          | FR-4, T1.6   | IEC 60335-1<br>IEC 60335-2-40   | Checked in the appliance               |   |
| Alt.                   | KINGBOARD LAMINATES LTD                 | KB-6150           | FR-4, T1.6, V-0  | IEC 60335-1<br>IEC 60335-2-40   | Checked in the appliance               |   |
| Alt.                   | Kunshan Suhang Circuit Board Co., Ltd   | SH-M1             | CEM-3, T1.6, V-0   | IEC 60335-1<br>IEC 60335-2-40   | Checked in the appliance               |   |
| Alt.                   | Kunshan Huatao Circuit Board Co., Ltd   | HT-M              | CEM-3, T1.6, V-0   | IEC 60335-1<br>IEC 60335-2-40   | Checked in the appliance               |   |
| Fuse (F701)            | Cooper Bussmann LLC                     | S506 series       | 250V~ T5A, 250V~ T3.15A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60127-1<br>IEC 60127-3                                   | Checked in the appliance<br>VDE        |   |
| Alt.                   | Littelfuse Inc.                         | 218 series        | 250V~ T5A, 250V~ T3.15A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60127-1<br>IEC 60127-3                                   | Checked in the appliance<br>VDE        |   |
| Alt.                   | Orisel Co., Ltd.                        | 50T/52T series    | 250V~ T5A, 250V~ T3.15A  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60127-1<br>IEC 60127-3                                   | Checked in the appliance<br>VDE        |   |
| Varistor (VA71)        | Thinking Electronic Industrial Co., Ltd | TVR 14561         | 560V 4500A 350Vrms T85   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the appliance<br>VDE        |   |
| Alt.                   | Amotech Co., Ltd                        | INR 14D561        | 560V, 4500A 350Vrms T85  | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the appliance<br>VDE        |   |
| Alt.                   | Ceramate Techn. Co., Ltd.               | GNR 14D561K       | 560V 4500A 350Vrms T85   | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the appliance<br>VDE        |   |



| 24.1                        | TABLE: Components                          |                    |  |   |   | P |
|-----------------------------|--|--------------------|--|---|---|---|
| Object / part No.           | Manufacturer/<br>trademark                 | Type / model       | Technical data   | Standard  | Mark(s) of<br>conformity <sup>1)</sup>            |   |
| Alt.                        | Amotech Co., Ltd                           | INR14D621K         | 620V, 4500A<br>385Vrms<br>T85                              | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Thinking Electronic<br>Industrial Co., Ltd | TVR 14D681         | 680V, 4500A<br>420Vrms<br>T85                              | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Amotech Co., Ltd                           | INR 14D681K        | 680V, 4500A<br>420Vrms<br>T85                              | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Ceramate Techn.<br>Co., Ltd.               | GNR<br>14D681K     | 680V, 5000A<br>420Vrms<br>T85                              | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Samwha Capacitor<br>Co., Ltd.              | SVC561D-14A        | 560V 4500A<br>350Vrms<br>T85                               | IEC 60335-1<br>IEC 60335-2-40<br>IEC 61051-1<br>IEC 61051-2/ -2-2<br>CECC 42200<br>CECC 42201 | Checked in the<br>appliance<br>VDE                |   |
| Choke coil<br>(FT71)        | Sangshin<br>Electronics Co.,<br>Ltd        | SSC2208140<br>B    | 250V~ 50/60Hz,<br>5A, 14mH<br>- Bobbin: V-0<br>- Base: V-0 | IEC 60335-1<br>IEC 60335-2-40   | Checked in the<br>appliance                       |   |
| X-Capacitor<br>(X701, X702) | Pilkor Electronics<br>Ltd.                 | PCX2 337<br>Series | 275V~ 0.33uF<br>275V~ 0.68uF<br>X2, T85                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14   | Checked in the<br>appliance<br>ENEC 14<br>(SEMKO) |   |
| Alt.                        | Ultra Tech Xiphi<br>Enterprise Co., Ltd    | HQX Series         | 275V~ 0.33uF<br>275V~ 0.68uF<br>X2, T85                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14   | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Joey Electronics<br>(Dongguan) Co.,<br>Ltd | MPX Series         | 275V~ 0.33uF<br>275V~ 0.68uF<br>X2, T85                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14   | Checked in the<br>appliance<br>VDE                |   |
| Alt.                        | Sunil Electronics<br>Ind Co., Ltd.         | 435D Series        | 275V~ 0.33uF<br>275V~ 0.68uF<br>X2, T85                    | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14   | Checked in the<br>appliance<br>VDE                |   |

| 24.1  |                                     | TABLE: Components |                          |   |  | P |
|---|-------------------------------------|-------------------|--------------------------|---|--|---|
| Object / part No.   | Manufacturer/<br>trademark          | Type / model      | Technical data           | Standard                                      | Mark(s) of<br>conformity <sup>1)</sup> |   |
| Y-capacitor<br>(Y701, Y702)   | TDK corporation                     | CS, CD Series     | 2.2nF 400V               | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | Wanming<br>Electronics Co.,<br>Ltd. | HM,HJ-Series      | 2.2nF 400V               | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | SamWha<br>Capacitor Co., Ltd        | SC Series         | 2.2nF 400V               | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14 | Checked in the<br>appliance<br>VDE     |   |
| Alt.  | DONG IL<br>Electronics Co.,<br>Ltd. | DA Series         | 2.2nF 400V               | IEC 60335-1<br>IEC 60335-2-40<br>IEC 60384-14 | Checked in the<br>appliance<br>VDE     |   |
| AC Connector<br>(CN71, CN72)  | YeonHo<br>Electronics Co.           | YW396 Series      | 250V~ 7A<br>-55 – 125 °C | IEC 60335-1<br>IEC 60335-2-40                 | Checked in the<br>appliance            |   |
| <sup>1)</sup> An asterisk indicates a mark which assures the agreed level of surveillance<br>supplementary information: |                                     |                   |                          |   |  |   |

|   |                                  |                                   |                               |                     |
|---|----------------------------------|-----------------------------------|-------------------------------|---------------------|
| 28.1  | TABLE: Threaded part torque test |                                   |                               | P                   |
| Threaded part identification  |                                  | Diameter of thread (mm)           | Column number (I, II, or III) | Applied torque (Nm) |
| Metal screws<br>- for interconnection cord connection on terminal block |                                  | >3,6 and ≤ 4,1<br>(Measured: 3,9) | II                            | 1,2                 |
| Metal screws<br>- for earthing provision                                |                                  | >3,6 and ≤ 4,1<br>(Measured: 3,9) | II                            | 1,2                 |
| supplementary information:  |                                  |                                   |                               |                     |

| <b>29.1</b>  | <b>TABLE: Clearances</b>   |                     |            |               |            | <b>P</b>         |
|--|----------------------------|---------------------|------------|---------------|------------|------------------|
|  | Overvoltage category ..... | Category II         |            |               |            | —                |
| Rated impulse voltage (V)  | Min. cl (mm)               | Type of insulation: |            |               |            | Verdict / Remark |
|  |                            | Basic               | Functional | Supplementary | Reinforced |                  |
| 330  | 0,5 <sup>1)</sup>          | -                   | -          | -             | -          | N/A              |
| 500  | 0,5 <sup>1)</sup>          | 0,5                 | 0,5        | -             | -          | P                |
| 800  | 0,5 <sup>1)</sup>          | -                   | -          | -             | -          | N/A              |
| 1500   | 0,5 <sup>1), 2)</sup>      | -                   | -          | -             | -          | N/A              |
| 2500   | 1,5 <sup>2)</sup>          | 1,5                 | 1,5        | 1,5           | -          | P                |
| 4000   | 3,0 <sup>2)</sup>          | -                   | -          | -             | 3,0        | P                |
| 6000   | 5,5 <sup>2)</sup>          | -                   | -          | -             | -          | N/A              |
| 8000   | 8,0 <sup>2)</sup>          | -                   | -          | -             | -          | N/A              |
| 10000  | 11,0 <sup>2)</sup>         | -                   | -          | -             | -          | N/A              |
| <sup>1)</sup> Value is increased to 0,8 mm for pollution degree 3<br><sup>2)</sup> If the construction is affected by wear, by distortion, by movement of the parts or during assembly, the value is increased by 0,5 mm<br>supplementary information: |                            |                     |            |               |            |                  |

| 29.2                   | TABLE: Creepage distances, basic, supplementary and reinforced insulation |                |      |            |                |      |           |                    |                 |                 | P       |
|------------------------|---|----------------|------|------------|----------------|------|-----------|--------------------|-----------------|-----------------|---------|
| Working voltage<br>(V) | Creepage distance<br>(mm)<br>Pollution degree                             |                |      |            |                |      |           |                    |                 |                 |         |
|                        | 1   | 2              |      |            | 3              |      |           | Type of insulation |                 |                 | Verdict |
|                        |   | Material group |      |            | Material group |      |           |                    |                 |                 |         |
|                        |   | I              | II   | IIIa/IIIb  | I              | II   | IIIa/IIIb | B <sup>*)</sup>    | S <sup>*)</sup> | R <sup>*)</sup> |         |
| ≤50                    | 0,2   | 0,6            | 0,9  | <u>1,2</u> | 1,5            | 1,7  | 1,9       | 1,2                | —               | —               | P       |
| ≤50                    | 0,2   | 0,6            | 0,9  | <u>1,2</u> | 1,5            | 1,7  | 1,9       | —                  | 1,2             | —               | P       |
| ≤50                    | 0,4   | 1,2            | 1,8  | <u>2,4</u> | 3,0            | 3,4  | 3,8       | —                  | —               | 2,4             | P       |
| >50 and ≤125           | 0,3   | 0,8            | 1,1  | 1,5        | 1,9            | 2,1  | 2,4       |                    | —               | —               | N/A     |
| >50 and ≤125           | 0,3   | 0,8            | 1,1  | 1,5        | 1,9            | 2,1  | 2,4       | —                  |                 | —               | N/A     |
| >50 and ≤125           | 0,6   | 1,6            | 2,2  | 3,0        | 3,8            | 4,2  | 4,8       | —                  | —               |                 | N/A     |
| >125 and ≤250          | 0,6   | 1,3            | 1,8  | <u>2,5</u> | 3,2            | 3,6  | 4,0       | 2,5                | —               | —               | P       |
| >125 and ≤250          | 0,6   | 1,3            | 1,8  | <u>2,5</u> | 3,2            | 3,6  | 4,0       | —                  | 2,5             | —               | P       |
| >125 and ≤250          | 1,2   | 2,6            | 3,6  | <u>5,0</u> | 6,4            | 7,2  | 8,0       | —                  | —               | 5,0             | P       |
| >250 and ≤400          | 1,0   | 2,0            | 2,8  | <u>4,0</u> | 5,0            | 5,6  | 6,3       | 4,0                | —               | —               | P       |
| >250 and ≤400          | 1,0   | 2,0            | 2,8  | <u>4,0</u> | 5,0            | 5,6  | 6,3       | —                  | 4,0             | —               | P       |
| >250 and ≤400          | 2,0   | 4,0            | 5,6  | <u>8,0</u> | 10,0           | 11,2 | 12,6      | —                  | —               | 8,0             | P       |
| >400 and ≤500          | 1,3   | 2,5            | 3,6  | 5,0        | 6,3            | 7,1  | 8,0       |                    | —               | —               | N/A     |
| >400 and ≤500          | 1,3   | 2,5            | 3,6  | 5,0        | 6,3            | 7,1  | 8,0       | —                  |                 | —               | N/A     |
| >400 and ≤500          | 2,6   | 5,0            | 7,2  | 10,0       | 12,6           | 14,2 | 16,0      | —                  | —               |                 | N/A     |
| >500 and ≤800          | 1,8   | 3,2            | 4,5  | 6,3        | 8,0            | 9,0  | 10,0      |                    | —               | —               | N/A     |
| >500 and ≤800          | 1,8   | 3,2            | 4,5  | 6,3        | 8,0            | 9,0  | 10,0      | —                  |                 | —               | N/A     |
| >500 and ≤800          | 3,6   | 6,4            | 9,0  | 12,6       | 16,0           | 18,0 | 20,0      | —                  | —               |                 | N/A     |
| >800 and ≤1000         | 2,4   | 4,0            | 5,6  | 8,0        | 10,0           | 11,0 | 12,5      |                    | —               | —               | N/A     |
| >800 and ≤1000         | 2,4   | 4,0            | 5,6  | 8,0        | 10,0           | 11,0 | 12,5      | —                  |                 | —               | N/A     |
| >800 and ≤1000         | 4,8   | 8,0            | 11,2 | 16,0       | 20,0           | 22,0 | 25,0      | —                  | —               |                 | N/A     |
| >1000 and ≤1250        | 3,2   | 5,0            | 7,1  | 10,0       | 12,5           | 14,0 | 16,0      |                    | —               | —               | N/A     |
| >1000 and ≤1250        | 3,2   | 5,0            | 7,1  | 10,0       | 12,5           | 14,0 | 16,0      | —                  |                 | —               | N/A     |
| >1000 and ≤1250        | 6,4   | 10,0           | 14,2 | 20,0       | 25,0           | 28,0 | 32,0      | —                  | —               |                 | N/A     |
| >1250 and ≤1600        | 4,2   | 6,3            | 9,0  | 12,5       | 16,0           | 18,0 | 20,0      |                    | —               | —               | N/A     |
| >1250 and ≤1600        | 4,2   | 6,3            | 9,0  | 12,5       | 16,0           | 18,0 | 20,0      | —                  |                 | —               | N/A     |
| >1250 and ≤1600        | 8,4   | 12,6           | 18,0 | 25,0       | 32,0           | 36,0 | 40,0      | —                  | —               |                 | N/A     |
| >1600 and ≤2000        | 5,6   | 8,0            | 11,0 | 16,0       | 20,0           | 22,0 | 25,0      |                    | —               | —               | N/A     |
| >1600 and ≤2000        | 5,6   | 8,0            | 11,0 | 16,0       | 20,0           | 22,0 | 25,0      | —                  |                 | —               | N/A     |
| >1600 and ≤2000        | 11,2  | 16,0           | 22,0 | 32,0       | 40,0           | 44,0 | 50,0      | —                  | —               |                 | N/A     |

| 29.2   | TABLE: Creepage distances, basic, supplementary and reinforced insulation |                |       |           |                |       |           |                    |                 |                 | P       |
|--|---|----------------|-------|-----------|----------------|-------|-----------|--------------------|-----------------|-----------------|---------|
| Working voltage<br>(V)   | Creepage distance<br>(mm)<br>Pollution degree                             |                |       |           |                |       |           |                    |                 |                 |         |
|  | 1   | 2              |       |           | 3              |       |           | Type of insulation |                 |                 | Verdict |
|  |   | Material group |       |           | Material group |       |           |                    |                 |                 |         |
|  |   | I              | II    | IIIa/IIIb | I              | II    | IIIa/IIIb | B <sup>*)</sup>    | S <sup>*)</sup> | R <sup>*)</sup> |         |
| >2000 and ≤2500  | 7,5   | 10,0           | 14,0  | 20,0      | 25, 0          | 28,0  | 32,0      |                    | —               | —               | N/A     |
| >2000 and ≤2500  | 7,5   | 10,0           | 14,0  | 20,0      | 25,0           | 28,0  | 32,0      | —                  |                 | —               | N/A     |
| >2000 and ≤2500  | 15,0  | 20,0           | 28,0  | 40,0      | 50,0           | 56,0  | 64,0      | —                  | —               |                 | N/A     |
| >2500 and ≤3200  | 10,0  | 12,5           | 18,0  | 25,0      | 32,0           | 36,0  | 40,0      |                    | —               | —               | N/A     |
| >2500 and ≤3200  | 10,0  | 12,5           | 18,0  | 25,0      | 32,0           | 36,0  | 40,0      | —                  |                 | —               | N/A     |
| >2500 and ≤3200  | 20,0  | 25,0           | 36,0  | 50,0      | 64,0           | 72,0  | 80,0      | —                  | —               |                 | N/A     |
| >3200 and ≤4000  | 12,5  | 16,0           | 22,0  | 32,0      | 40,0           | 45,0  | 50,0      |                    | —               | —               | N/A     |
| >3200 and ≤4000  | 12,5  | 16,0           | 22,0  | 32,0      | 40,0           | 45,0  | 50,0      | —                  |                 | —               | N/A     |
| >3200 and ≤4000  | 25,0  | 32,0           | 44,0  | 64,0      | 80,0           | 90,0  | 100,0     | —                  | —               |                 | N/A     |
| >4000 and ≤5000  | 16,0  | 20,0           | 28,0  | 40,0      | 50,0           | 56,0  | 63,0      |                    | —               | —               | N/A     |
| >4000 and ≤5000  | 16,0  | 20,0           | 28,0  | 40,0      | 50,0           | 56,0  | 63,0      | —                  |                 | —               | N/A     |
| >4000 and ≤5000  | 32,0  | 40,0           | 56,0  | 80,0      | 100,0          | 112,0 | 126,0     | —                  | —               |                 | N/A     |
| >5000 and ≤6300  | 20,0  | 25,0           | 36,0  | 50,0      | 63,0           | 71,0  | 80,0      |                    | —               | —               | N/A     |
| >5000 and ≤6300  | 20,0  | 25,0           | 36,0  | 50,0      | 63,0           | 71,0  | 80,0      | —                  |                 | —               | N/A     |
| >5000 and ≤6300  | 40,0  | 50,0           | 72,0  | 100,0     | 126,0          | 142,0 | 160,0     | —                  | —               |                 | N/A     |
| >6300 and ≤8000  | 25,0  | 32,0           | 45,0  | 63,0      | 80,0           | 90,0  | 100,0     |                    | —               | —               | N/A     |
| >6300 and ≤8000  | 25,0  | 32,0           | 45,0  | 63,0      | 80,0           | 90,0  | 100,0     | —                  |                 | —               | N/A     |
| >6300 and ≤8000  | 50,0  | 64,0           | 90,0  | 126,0     | 160,0          | 180,0 | 200,0     | —                  | —               |                 | N/A     |
| >8000 and ≤10000   | 32,0  | 40,0           | 56,0  | 80,0      | 100,0          | 110,0 | 125,0     |                    | —               | —               | N/A     |
| >8000 and ≤10000   | 32,0  | 40,0           | 56,0  | 80,0      | 100,0          | 110,0 | 125,0     | —                  |                 | —               | N/A     |
| >8000 and ≤10000   | 64,0  | 80,0           | 112,0 | 160,0     | 200,0          | 220,0 | 250,0     | —                  | —               |                 | N/A     |
| >10000 and ≤12500  | 40,0  | 50,0           | 71,0  | 100,0     | 125,0          | 140,0 | 160,0     |                    | —               | —               | N/A     |
| >10000 and ≤12500  | 40,0  | 50,0           | 71,0  | 100,0     | 125,0          | 140,0 | 160,0     | —                  |                 | —               | N/A     |
| >10000 and ≤12500  | 80,0  | 100,0          | 142,0 | 200,0     | 250,0          | 280,0 | 320,0     | —                  | —               |                 | N/A     |
| *) , B=Basic, S=Supplementary and R=Reinforced<br>supplementary information: |   |                |       |           |                |       |           |                    |                 |                 |         |

| 29.2                       | TABLE: Creepage distances, basic, supplementary and reinforced insulation |                |      |            |                |       |           | P                |
|----------------------------|---|----------------|------|------------|----------------|-------|-----------|------------------|
| Working voltage<br>(V)     | Creepage distance<br>(mm)<br>Pollution degree                             |                |      |            |                |       |           | Verdict / Remark |
|                            | 1   | 2              |      |            | 3              |       |           |                  |
|                            |   | Material group |      |            | Material group |       |           |                  |
|                            |   | I              | II   | IIIa/IIIb  | I              | II    | IIIa/IIIb |                  |
| ≤50                        | 0,2   | 0,6            | 0,8  | <u>1,1</u> | 1,4            | 1,6   | 1,8       | P (min. 1,1)     |
| >50 and ≤125               | 0,3   | 0,7            | 1,0  | 1,4        | 1,8            | 2,0   | 2,2       | N/A              |
| >125 and ≤250              | 0,4   | 1,0            | 1,4  | <u>2,0</u> | 2,5            | 2,8   | 3,2       | P (min. 2,0)     |
| >250 and ≤400              | 0,8   | 1,6            | 2,2  | <u>3,2</u> | 4,0            | 4,5   | 5,0       | P (min. 3,2)     |
| >400 and ≤500              | 1,0   | 2,0            | 2,8  | 4,0        | 5,0            | 5,6   | 6,3       | N/A              |
| >500 and ≤800              | 1,8   | 3,2            | 4,5  | 6,3        | 8,0            | 9,0   | 10,0      | N/A              |
| >800 and ≤1000             | 2,4   | 4,0            | 5,6  | 8,0        | 10,0           | 11,0  | 12,5      | N/A              |
| >1000 and ≤1250            | 3,2   | 5,0            | 7,1  | 10,0       | 12,5           | 14,0  | 16,0      | N/A              |
| >1250 and ≤1600            | 4,2   | 6,3            | 9,0  | 12,5       | 16,0           | 18,0  | 20,0      | N/A              |
| >1600 and ≤2000            | 5,6   | 8,0            | 11,0 | 16,0       | 20,0           | 22,0  | 25,0      | N/A              |
| >2000 and ≤2500            | 7,5   | 10,0           | 14,0 | 20,0       | 25,0           | 28,0  | 32,0      | N/A              |
| >2500 and ≤3200            | 10,0  | 12,5           | 18,0 | 25,0       | 32,0           | 36,0  | 40,0      | N/A              |
| >3200 and ≤4000            | 12,5  | 16,0           | 22,0 | 32,0       | 40,0           | 45,0  | 50,0      | N/A              |
| >4000 and ≤5000            | 16,0  | 20,0           | 28,0 | 40,0       | 50,0           | 56,0  | 63,0      | N/A              |
| >5000 and ≤6300            | 20,0  | 25,0           | 36,0 | 50,0       | 63,0           | 71,0  | 80,0      | N/A              |
| >6300 and ≤8000            | 25,0  | 32,0           | 45,0 | 63,0       | 80,0           | 90,0  | 100,0     | N/A              |
| >8000 and ≤10000           | 32,0  | 40,0           | 56,0 | 80,0       | 100,0          | 110,0 | 125,0     | N/A              |
| >10000 and ≤12500          | 40,0  | 50,0           | 71,0 | 100,0      | 125,0          | 140,0 | 160,0     | N/A              |
| supplementary information: |   |                |      |            |                |       |           |                  |

| 30.1                         | TABLE: Ball pressure  |                          |                                  | P |
|------------------------------|-----------------------|--------------------------|----------------------------------|---|
| Part                         | Test temperature (°C) | Impression diameter (mm) | Allowed impression diameter (mm) |   |
| Cord anchorage               | 75                    | < 1,4                    | 2,0                              |   |
| X-capacitor                  | 125                   | 1,5                      | 2,0                              |   |
| Fuse holder                  | 125                   | 1,6                      | 2,0                              |   |
| Switching transformer bobbin | 125                   | 1,4                      | 2,0                              |   |
| Choke coil bobbin            | 125                   | 1,6                      | 2,0                              |   |
| Relay                        | 125                   | 1,6                      | 2,0                              |   |
| PCB                          | 125                   | < 1,4                    | 2,0                              |   |
| Terminal block               | 125                   | < 1,4                    | 2,0                              |   |
| AC connector                 | 125                   | 1,5                      | 2,0                              |   |
| supplementary information:   |                       |                          |                                  |   |

| 30.2   | TABLE: glow-wire test |         | P |
|--|-----------------------|---------|---|
| Parts  | temperature ( °C)     | verdict |   |
| Cord anchorage   | 550                   | P       |   |
| X-capacitor  | 850 *) / 750 **)      | P       |   |
| Fuse holder  | 850 *) / 750 **)      | P       |   |
| Switching transformer bobbin   | 850 *) / 750 **)      | P       |   |
| Choke coil bobbin  | 850 *) / 750 **)      | P       |   |
| Relay  | 850 *) / 750 **)      | P       |   |
| PCB  | 850 *) / 750 **)      | P       |   |
| Terminal block   | 850 *) / 750 **)      | P       |   |
| AC connector   | 850 *) / 750 **)      | P       |   |
| supplementary information:   |                       |         |   |
| *) Glow-wire test at 850 °C according to the IEC 60695-2-11.<br>No parts exceeding 60 s (te < 60 s) and no parts igniting the layer below. |                       |         |   |
| **) Glow-wire test at 750 °C according to the IEC 60695-2-11.  |                       |         |   |

== END of TEST REPORT ==



## IEC60335\_2\_40F – ATTACHMENT 1

**ATTACHMENT TO TEST REPORT IEC 60335-2-40**  
**EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**  
**Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers**

**Differences according to** ..... : EN 60335-2-40:2003 (incl. Corr.:2006) + A11:2004 + A12:2005 + A1:2006 + A2:2009 with  
 EN 60335-1:2002 + A11:2004 + A1:2004 + A12:2006 + A2:2006 + A13:2008

**Attachment Form No.** ..... : EU\_GD\_IEC60335\_2\_40F

**Attachment Originator**..... : VDE

**Master Attachment** ..... : Date 2009-11

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## EN 60335-1, EN 60335-2-40

| Clause | Requirement – Test | Result – Remark | Verdict |
|--------|--------------------|-----------------|---------|
|--------|--------------------|-----------------|---------|

| <b>Group Differences / CENELEC COMMON MODIFICATIONS to IEC 60335-1, IEC 60335-2-40</b> |   |   |     |
|--|---|---|-----|
| 7.12.1   | Installation instructions for appliances intended to be permanently connected to fixed wiring, and have leakage current exceed 10 mA, state that installation of residual current device (RCD) having rated residual operating current not exceeding 30 mA is advisable (EN 60335-2-40)                     | Not exceeding 10mA.                       | N/A |
|  | For appliances not accessible to the general public and which are intended to be permanently connected to fixed wiring and which may have leakage currents exceeding 10 mA, the installation instructions shall specify the rating of the residual current device (RCD) to be installed (EN 60335-2-40/A12) | Not exceeding 10mA.                       | N/A |
| 13.2   | Leakage current measurements (EN 60335-2-40)  | (See appended table in main test report.) | P   |
| 15.1   | Enclosure provides the degree of moisture protection according to classification of appliance (EN 60335-2-40/A2)  | No IP degree, IPX0.                       | N/A |
|  | Compliance checked as specified in clause 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3 (EN 60335-2-40/A2)   | IPX0                                      | N/A |
|  | No trace of water on insulation which can result in a reduction of clearances and creepage distances below values specified in clause 29 (EN 60335-2-40/A2)   |   | N/A |
| 15.1.1   | Appliances, other than IPX0, subjected to tests as specified in IEC 60529 (EN 60335-2-40/A2).....:  | IPX0                                      | N/A |

| IEC60335_2_40F – ATTACHMENT 1 |  |  |         |
|-------------------------------|--|--|---------|
| EN 60335-1, EN 60335-2-40     |  |  |         |
| Clause                        | Requirement – Test   | Result – Remark                                | Verdict |
|                               | Water valves containing in external hoses for connection of an appliance to water mains, subjected to the test as specified for IPX7 appliances (EN 60335-2-40/A2)   | No such water valves.                          | N/A     |
| 15.1.2                        | Hand-held appliance turned continuously through most unfavourable positions during test  |  | N/A     |
|                               | Built-in appliances installed according instructions (EN 60335-2-40/A2)  | IPX0   | N/A     |
|                               | Appliances placed or used on the floor or table placed on a horizontal unperforated support (EN 60335-2-40/A2)   |  | N/A     |
|                               | Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board (EN 60335-2-40/A2)  |  | N/A     |
|                               | For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube (EN 60335-2-40/A2)  |  | N/A     |
|                               | For IPX4 appliances, horizontal centre line of appliance is aligned with pivot axis of oscillating tube (EN 60335-2-40/A2)   |  | N/A     |
|                               | However, for appliances normally used on floor or table, movement is limited to two times 90 ° for a period of 5 min, support being placed at the level of pivot axis of oscillating tube (EN 60335-2-40/A2) |  | N/A     |
|                               | Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, pivot axis of oscillating tube located at level of underside of support (EN 60335-2-40/A2)                  |  | N/A     |
|                               | IPX4 appliances, movement of tube is limited to two times 90 ° from vertical for a period of 5 min (EN 60335-2-40/A2)  |  | N/A     |
|                               | Wall-mounted appliances, take into account distance to floor stated in instructions (EN 60335-2-40/A2)   |  | N/A     |
|                               | Appliances with type X attachment fitted with a flexible cord as described (EN 60335-2-40/A2)  |  | N/A     |
|                               | Detachable parts tested as specified (EN 60335-2-40/A2)  |  | N/A     |
| 15.2                          | Appliances proof against humid conditions (EN 60335-2-40)  | Considered.                                    | P       |
|                               | Humidity test for 48 h in a humidity cabinet (EN 60335-2-40)   | For 48h at 24°C, 95% R.H.                      | P       |
|                               | Appliance withstands tests of clause 16 (EN 60335-2-40)  | No excessive leakage current.<br>No breakdown. | P       |
| 16.2                          | Leakage current measurements (EN 60335-2-40)   | (See appended table in main test report.)      | P       |

| IEC60335_2_40F – ATTACHMENT 1 |  |  |         |
|-------------------------------|--|--|---------|
| EN 60335-1, EN 60335-2-40     |  |  |         |
| Clause                        | Requirement – Test   | Result – Remark  | Verdict |
| 24.1.7                        | Remote operation via telecommunication network, relevant standards for telecommunication interface circuitry in appliance EN 41003 and EN 60950-1:2006, Subclause 6.3 (EN 60335-1/A13)   | No such remote operation.  | N/A     |
| 25.6                          | Supply cords of single-phase portable appliances having a rated current not exceeding 16 A, fitted with a plug complying with the following standard sheets of IEC 60083:1975:   |  | —       |
|                               | - class I appliances: standard sheet C2b, C3b or C4 :  | Stationary/ Fixed appliance.   | N/A     |
|                               | - class II appliances: standard sheet C5 or C6 .....   |  | N/A     |
| 25.7                          | Supply cords being one of following types:   |  | —       |
|                               | - ordinary polychloroprene sheathed flexible cord (at least 60245 IEC 57) (H05RN-F)  | 1. Not checked in this test report.<br>2. The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A     |
|                               | Supply cords having high flexibility, not lighter than:  |  | —       |
|                               | - rubber insulated and sheathed cord (60245 IEC 86) (H03RR-H)  |  | N/A     |
|                               | - rubber insulated, crosslinked PVC sheathed cord (60245 IEC 87) (H03RV4-H)  |  | N/A     |
|                               | - crosslinked PVC insulated and sheathed cord (60245 IEC 88) (H03V4V4-H).  |  | N/A     |
| 29.3                          | Replace third dashed item by:<br>- an assessment of thermal quality of material combined with an electric strength test, in accordance with clause 29.3.3, and for accessible reinforced insulation consisting of a single layer, measurement in accordance with clause 29.3.Z1 (EN 60335-1/A12) |  | N/A     |
| 29.3.Z1                       | Accessible reinforced insulation consisting of a single layer, thickness of layer complies with table Z1; rated voltage (V); overvoltage category; thickness (mm) (EN 60335-1/A12) .....   |  | N/A     |
| GG.2                          | Requirements for charge limits in unventilated areas (EN 60335-2-40/A1)  | Intended for the use of a non-flammable refrigerant.   | N/A     |
| GG.Z1                         | Non fixed factory sealed single package units with a charge amount of $m_1 < M \leq 2 \times m_1$ (EN 60335-2-40/A1)   |  | N/A     |

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| IEC60335_2_40F – ATTACHMENT 1 |
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|                           |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| EN 60335-1, EN 60335-2-40 |                    |                 |         |
| Clause                    | Requirement – Test | Result – Remark | Verdict |

|           |   |  |   |
|-----------|---|--|---|
| <b>ZC</b> | <b>ANNEX ZC (NORMATIVE) (EN 60335-1, EN 60335-2-40)</b><br><b>NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS</b> |  | — |
|           | Normative references to international publications with their corresponding European publications (EN 60335-1/A1, EN 60335-1/A2, EN 60335-2-40)                     |  | P |

|           |   |  |   |
|-----------|---|--|---|
| <b>ZD</b> | <b>ANNEX ZD (INFORMATIVE) (EN 60335-1, EN 60335-2-40)</b><br><b>IEC AND CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORD</b> |  | — |
|           | List of code designations for different types of flexible cords   |  | P |

|   |  |   |     |
|---|--|---|-----|
| <b>National Differences for Austria</b> |  |   |     |
| <b>ZA</b>                               | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6                                    | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

|  |  |   |     |
|--|--|---|-----|
| <b>National Differences / Deviations for Belgium</b> |  |   |     |
| <b>ZA</b>  | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6   | Plugs according to standard sheet C2b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

|  |   |  |     |
|--|---|--|-----|
| <b>National Differences / Deviations for Denmark</b> |   |  |     |
| <b>ZA</b>  | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>  |  | —   |
| 7.12   | Requirements regarding marking tag of power supply cord and connection of earthing wire for class I appliances delivered without plug |  | N/A |

| IEC60335_2_40F – ATTACHMENT 1 |  |   |         |
|-------------------------------|--|---|---------|
| EN 60335-1, EN 60335-2-40     |  |   |         |
| Clause                        | Requirement – Test   | Result – Remark   | Verdict |
| 25.6                          | Supply cords of single-phase portable appliances having a rated current not exceeding 13 A provided with a plug according to following:  |   | —       |
|                               | - Class I appliances: Section 107-2-D1, ed.3 1998, standard sheet DK 2-1a  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A     |
|                               | Appliances covered by a Part 2 of EN 60335, also plugs in accordance with Section 107-2-D1, ed.3, 1998, standard sheet C2b, C3b or C4 are allowed                                    |   | N/A     |
|                               | Class II appliances: Section 107-2-D1, ed.3 1998, standard sheet C1b, C5, C6, DKA 2-1a and DKA 2-1b  |   | N/A     |
|                               | Stationary single-phase appliances, having a rated current not exceeding 13 A, and provided with a supply cord and a plug, the plug is in accordance with the requirements above     |   | N/A     |
|                               | Multi-phase appliances and single-phase appliances having a rated current exceeding 13 A, and provided with a supply cord and a plug, plug is in accordance with requirements below: |   | —       |
|                               | - Class I appliances: Section 107-2-D1, standard sheet DK 6-1a / EN 60309-2, standard sheet 2-II, 2-IV   | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A     |
|                               | - Class II appliances: Section 107-2-D1, standard sheet DK 6-1a / EN 60309-2, standard sheet 2-II, 2-IV, the earthing contact not being connected                                    |   | N/A     |
|                               | Current for plug not exceeding values specified; standard sheet (no.); current (A).....:   |   | N/A     |

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| IEC60335_2_40F – ATTACHMENT 1 |
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| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for Finland |  |   |     |
|---|--|---|-----|
| <b>ZA</b>                                     | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for France |  |   |     |
|--|--|---|-----|
| <b>ZA</b>                                    | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 22.2   | Second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, not applicable due to supply system | No heating elements.  | N/A |
| 25.6   | Plugs according to standard sheet C2b not allowed  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Germany |   |   |     |
|---|---|---|-----|
| <b>ZA</b>                                     | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>  |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed   | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
| <b>ZB</b>                                     | <b>ANNEX ZB (INFORMATIVE), A-DEVIATIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 29.3  | GERMANY: Third dashed item not applicable for appliances where the insulation is accessible. Additional measures, such as multi-layered insulation or adequate thickness, taken (EN 60335-1/A1) |   | N/A |

|                               |
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| IEC60335_2_40F – ATTACHMENT 1 |
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| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for Iceland |  |   |     |
|---|--|---|-----|
| <b>ZA</b>                                     | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Ireland |   |   |     |
|---|---|---|-----|
| <b>ZA</b>                                     | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>  |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed   | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
|   | Only plugs according to standard sheets B2 and C5 allowed (see also annex ZB)   |   | N/A |
| 25.8  | Replacement of line for 10 A and 16 A by:   |   | —   |
|   | > 10 A and ≤ 13 A      1,25 mm <sup>2</sup>   |   | N/A |
|   | > 13 A and ≤ 16 A      1,5 mm <sup>2</sup>  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
| <b>ZB</b>                                     | <b>ANNEX ZB (INFORMATIVE), A-DEVIATIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 25.6  | These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances | No plugs.   | N/A |



|                               |
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| IEC60335_2_40F – ATTACHMENT 1 |
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| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for Italy |  |   |     |
|---|--|---|-----|
| <b>ZA</b>                                   | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
|   | Only plugs listed in CENELEC Report R0BT-005:2001 allowed                            | Deleted.  | —   |
| <b>ZB</b>                                   | <b>ANNEX ZB (INFORMATIVE), A-DEVIATIONS (EN 60335-1, EN 60335-2-40)</b>              |   | —   |
| 7.1   | Voltage is 220 V/380 V   | 220V covered.<br>Rated: 220-240V~ 50Hz  | P   |

| National Differences / Deviations for Luxembourg |  |   |     |
|--|--|---|-----|
| <b>ZA</b>  | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6   | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Netherlands |  |   |     |
|---|--|---|-----|
| <b>ZA</b>   | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

|                               |
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| IEC60335_2_40F – ATTACHMENT 1 |
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| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for Norway |  |   |     |
|--|--|---|-----|
| <b>ZA</b>                                    | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 22.2   | Second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, not applicable due to supply system | No heating elements.  | N/A |
| 25.6   | Plugs according to standard sheet C3b not allowed  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Portugal |  |   |     |
|--|--|---|-----|
| <b>ZA</b>                                      | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6   | Plugs according to standard sheet C3b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Spain |  |   |     |
|---|--|---|-----|
| <b>ZA</b>                                   | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6  | Plugs according to standard sheet C2b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
|   | Plugs according to standard sheet C3b not allowed                                    |   | N/A |
|   | Appliances for household use, only following plugs are allowed:                      |   | —   |
|   | - according to UNE 20315: ESC 10-1b, C2b, C4, C6 or ESB 25-5b                        | No plugs.   | N/A |
|   | - according to UNE-EN 50075  |   | N/A |

|                               |
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| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for Sweden |  |   |     |
|--|--|---|-----|
| <b>ZA</b>                                    | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b> |   | —   |
| 25.6   | Plugs according to standard sheet C2b not allowed                                    | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |

| National Differences / Deviations for Switzerland |  |   |     |
|---|--|---|-----|
| <b>ZA</b>   | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 25.6  | Plugs according to standard sheet C3b not allowed  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
|   | Supply cords of portable household and similar electrical appliances having a rated current not exceeding 10 A, provided with a plug complying with SEV 1011 or IEC 60884-1 and one of following dimension sheets: |   | —   |
|   | - SEV 6532-2.1991, plug type 15, 3P+N+PE, 250/400 V, 10 A  | Stationary appliance, Exceeding 10A.  | N/A |
|   | - SEV 6533-2.1991, plug type 11, L+N, 250 V, 10 A  |   | N/A |
|   | - SEV 6534-2.1991 plug type 12, L+N+PE, 250 V, 10 A  |   | N/A |
| <b>ZB</b>   | <b>ANNEX ZB (INFORMATIVE), A-DEVIATIONS (EN 60335-1, EN 60335-2-40)</b>  |   | —   |
| 4   | Information about batteries with carbon-zinc and alkali-manganese  | No batteries.   | N/A |

|                               |
|-------------------------------|
| IEC60335_2_40F – ATTACHMENT 1 |
|-------------------------------|

| EN 60335-1, EN 60335-2-40 |                    |                 |         |
|---------------------------|--------------------|-----------------|---------|
| Clause                    | Requirement – Test | Result – Remark | Verdict |

| National Differences / Deviations for United Kingdom |  |   |     |
|--|--|---|-----|
| <b>ZA</b>  | <b>ANNEX ZA (NORMATIVE), SPECIAL NATIONAL CONDITIONS (EN 60335-1, EN 60335-2-40)</b>   |   | —   |
| 25.6   | Plugs according to standard sheet C2b not allowed  | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
|  | Plugs according to standard sheet C3b not allowed  |   | N/A |
|  | Only plugs according to standard sheets B2 and C5 allowed (see also annex ZB)  |   | N/A |
| 25.8   | Replacement of line for 10 A and 16 A by:  |   | —   |
|  | > 10 A and ≤ 13 A      1,25 mm <sup>2</sup>  |   | N/A |
|  | > 13 A and ≤ 16 A      1,5 mm <sup>2</sup>   | No plugs.<br>The manufacturer, service agent or similarly qualified person shall use a proper cross sectional area of supply cord and interconnection cord referring to an installation manual. | N/A |
| <b>ZB</b>  | <b>ANNEX ZB (INFORMATIVE), A-DEVIATIONS (EN 60335-1, EN 60335-2-40)</b>  |   | —   |
| 25.6   | These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and allow only plugs to BS 1363 to be fitted to domestic appliances. It also allows plugs to BS 4573 and standard sheet C5 to be fitted to shavers and toothbrushes. | No plugs.   | N/A |

|            |   |  |     |
|------------|---|--|-----|
| <b>ZAA</b> | <b>ANNEX ZAA (INFORMATIVE) (EN 60335-2-40/A11)<br/>THE RELEVANCE OF THE PRESSURE EQUIPMENT DIRECTIVE</b>  |  | —   |
|            | Refrigerating systems having a pressure greater than 0,05 MPa are considered to be assemblies falling within the scope of the Pressure Equipment Directive, 97/23/EC. However, according to Article 1, item 3.6 of the directive, equipment classified no higher than category I and covered by the low voltage directive is excluded from its scope. (EN 60335-2-40/A11) |  | N/A |

| IEC60335_2_40F – ATTACHMENT 1 |  |                 |         |
|-------------------------------|--|-----------------|---------|
| EN 60335-1, EN 60335-2-40     |  |                 |         |
| Clause                        | Requirement – Test   | Result – Remark | Verdict |
|                               | According to guideline 1/39 of the directive, this exclusion applies to both components and assemblies (refrigerant circuits). This applies to appliances containing vessels (e.g. compressors, receivers) or piping with limits in accordance with the following (EN 60335-2-40/A11): |                 | N/A     |
|                               | Vessels (EN 60335-2-40/A11)  |                 | —       |
|                               | - dangerous refrigerants (Annex II, Table 1) (EN 60335-2-40/A11):  |                 | —       |
|                               | - volume not exceeding 1 l, or (EN 60335-2-40/A11)   |                 | N/A     |
|                               | - pressure x volume not exceeding 5 MPa l (EN 60335-2-40/A11)  |                 | N/A     |
|                               | - non-dangerous refrigerants (Annex II, Table 2) (EN 60335-2-40/A11):  |                 | —       |
|                               | - volume not exceeding 1 l, or (EN 60335-2-40/A11)   |                 | N/A     |
|                               | - pressure x volume not exceeding 20 MPa l (EN 60335-2-40/A11)   |                 | N/A     |
|                               | Piping (EN 60335-2-40/A11)   |                 | —       |
|                               | - dangerous refrigerants (Annex II, Table 6) (EN 60335-2-40/A11):  |                 | —       |
|                               | - numerical designation not exceeding 25, or (EN 60335-2-40/A11)   |                 | N/A     |
|                               | - pressure not exceeding 1 MPa and numerical designation not exceeding 100, or (EN 60335-2-40/A11)   |                 | N/A     |
|                               | - pressure exceeding 1 MPa and pressure x numerical designation not exceeding 100 MPa (EN 60335-2-40/A11).   |                 | N/A     |
|                               | - non-dangerous refrigerants (Annex II, Table 7) (EN 60335-2-40/A11):  |                 | —       |
|                               | - numerical designation not exceeding 100, or (EN 60335-2-40/A11)  |                 | N/A     |
|                               | - pressure x numerical designation not exceeding 350 MPa (EN 60335-2-40/A11).  |                 | N/A     |
|                               | For other components, the most onerous limit of the two applies (EN 60335-2-40/A11)  |                 | N/A     |
|                               | The volume is the internal volume of the vessel and includes the volume of pipework up to the first connection. It excludes the volume of fixed internal parts (EN 60335-2-40/A11)   |                 | N/A     |
|                               | The pressure is the maximum pressure the vessel or piping system is exposed to, as specified by the manufacturer of the appliance (EN 60335-2-40/A11)  |                 | N/A     |

| IEC60335_2_40F – ATTACHMENT 1 |   |                 |         |
|-------------------------------|---|-----------------|---------|
| EN 60335-1, EN 60335-2-40     |   |                 |         |
| Clause                        | Requirement – Test  | Result – Remark | Verdict |
|                               | The numerical designation designates the size common to all components in the piping system (EN 60335-2-40/A11)   |                 | N/A     |
|                               | If any component exceeds the limits given above, the appliance has to comply with the directive. The technical requirements are given in Annex I and the conformity assessment tables and procedures in Annexes II and III of the directive (EN 60335-2-40/A11) |                 | N/A     |
|                               | Commonly used dangerous refrigerants, identified as Group 1 in the directive, are listed in table ZAA.1 (EN 60335-2-40/A11)   |                 | N/A     |
|                               | Commonly used non-dangerous refrigerants, identified as Group 2 in the directive, are listed in table ZAA.2 (EN 60335-2-40/A11)   |                 | N/A     |

## IEC60335\_2\_40F – ATTACHMENT 2

**ATTACHMENT TO TEST REPORT IEC 60335-2-40**  
**National Difference of Australia (AU) in the IECEE Online Bulletin**  
**Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers**

This attachment is based on the fact as following;

National Difference of Australia (AU) in the IECEE Online Bulletin. (<http://www.iecee.org>)

| No. | IEC standard                              | National standard reference  |
|-----|---|--|
| 1   | IEC 60335-1 (Fourth edition); am1; am2    | AS/NZS 60335.1: 2002<br>Last modification: 2010-04-19                |
| 2   | IEC 60335-2-40 (Fourth edition); am1; am2 | AS/NZS 60335.2.40: 2006<br>No national deviation for Australia (AU). |



## IEC60335\_2\_40F – ATTACHMENT 2

| <b>National Difference of Australia (AU)</b><br><b>AS/NZS 60335.1:2002 corresponding to IEC 60335-1:2002; am1; am2</b> |   |  |         |
|--|---|--|---------|
| Clause   | Requirement – Test  | Result   | Verdict |
| 5.2  | Replace the last paragraph of NOTE 1 with the following variation:<br>If the tests of annex H are carried out, one switch or one additional appliance is needed.  |  | N/A     |
| 5.8.1  | Replace with the following variation:<br>Appliances for a.c. only are tested with a.c. at 50 Hz, and those for a.c. and d.c. are tested at a.c. 50 Hz or d.c., whichever is the more unfavourable supply.   | Rated: 220-240V~ 50Hz<br>Tested with a.c. at 50Hz. | P       |
| 5.201  | For Australia the following applies:<br>For appliances, other than class III appliances, that are intended for connection to the supply mains and that are not marked with  |  | —       |
|  | – a rated voltage of at least 240 V for single-phase appliances and at least 415 V for three-phase appliances, or   |  | N/A     |
|  | – a rated voltage range that includes 240 V for single-phase appliances and 415 V for three-phase appliances,   | Rated: 220-240V~ 50Hz                              | P       |
|  | the rated voltage is equal to 240 V for single-phase appliances and 415 V for three-phase appliances, and the upper limit of the rated voltage range is equal to 240 V for single-phase appliances and 415 V for three-phase appliances.  | Upper limit: 240V~ 50Hz                            | P       |
|  | In addition, the rated current or rated power input is equal to the calculated value corresponding to 240 V for single-phase appliances and 415 V for three-phase appliances as appropriate.  |  | N/A     |
|  | NOTE 1 Example of calculation<br>If the appliance is marked with a rated voltage of 230 V and a rated current "A" or a rated power input "P", it will be tested as if it is marked with a rated voltage of 240 V and a rated current of $A \times (240/230)$ or a rated power input of $P \times (240/230)^2$ . |  | —       |
| 6.1  | Replace the requirement with the following variation:<br>Appliances shall be of one of the following classes with respect to protection against electric shock: class I, class II, class III.   | Class I appliance.                                 | P       |
| 7.1  | After the first paragraph of the requirement insert the following variation:<br>Appliances intended for connection to the supply mains, other than class III appliances, shall be marked with   |  | —       |
|  | – a rated voltage of at least:<br>230 V for single phase appliances;<br>400 V for polyphase appliances, or  |  | N/A     |

## IEC60335\_2\_40F – ATTACHMENT 2

| <b>National Difference of Australia (AU)</b><br><b>AS/NZS 60335.1:2002 corresponding to IEC 60335-1:2002; am1; am2</b> |   |                       |         |
|--|---|-----------------------|---------|
| Clause   | Requirement – Test  | Result                | Verdict |
|  | – a rated voltage range that includes:<br>230 V for single phase appliances;<br>400 V for polyphase appliances.   | Rated: 220-240V~ 50Hz | P       |
| 7.13   | Replace the requirement with the following variation:<br>Instructions and other text required by this standard shall be written in English.   | In English.           | P       |
| Table 3  | After the second row in table 3 insert the following variation:<br>Insulated pins of appliances with pins for insertion into socket-outlets..... 45   | No socket-outlets.    | N/A     |
| 22.3   | Replace the first paragraph of the test specification with the following variation:<br>Compliance is checked by inserting the pins of the appliance into a socket-outlet capable of accepting a plug complying with Figure 2.1(a) of AS/NZS 3112. The socket-outlet has a horizontal pivot at a distance of 8 mm behind the engagement face of the socket-outlet and in the plane of the lower intersection of the centre lines of the contact apertures. | No socket-outlets.    | N/A     |
| 22.201   | After Clause 22.45 insert the following variations:<br>22.201 VOID  |                       | —       |
| 22.202   | Appliances having integral pins for insertion into socket outlets shall comply with the appropriate requirements of AS/NZS 3112.  | No socket-outlets.    | N/A     |
|  | Compliance with checked as specified in Annex J of AS/NZS 3112  |                       | N/A     |
|  | NOTE 1 Clause J.2.2.3 (Internal connections for plug portions) of AS/NZS 3112 is covered by clause 23 of this standard  |                       | N/A     |
|  | NOTE 2 Clause J.2.2.6.2 (High voltage test) of AS/NZS 3112, except for the test of the insulation of the insulated pins, is covered by clause 16 of this standard.  |                       | N/A     |
|  | NOTE 3 Clause J.2.2.6.4 (Temperature rise test) of AS/NZS 3112 is covered by clause 11 of this standard   |                       | N/A     |
|  | NOTE 4 Clause J.2.2.6.7 (Equipment with integral pins intended to be supported by the contacts of a socket-outlet) of AS/NZS 3112 is covered by clause 22.3 of this standard  |                       | N/A     |

## IEC60335\_2\_40F – ATTACHMENT 2

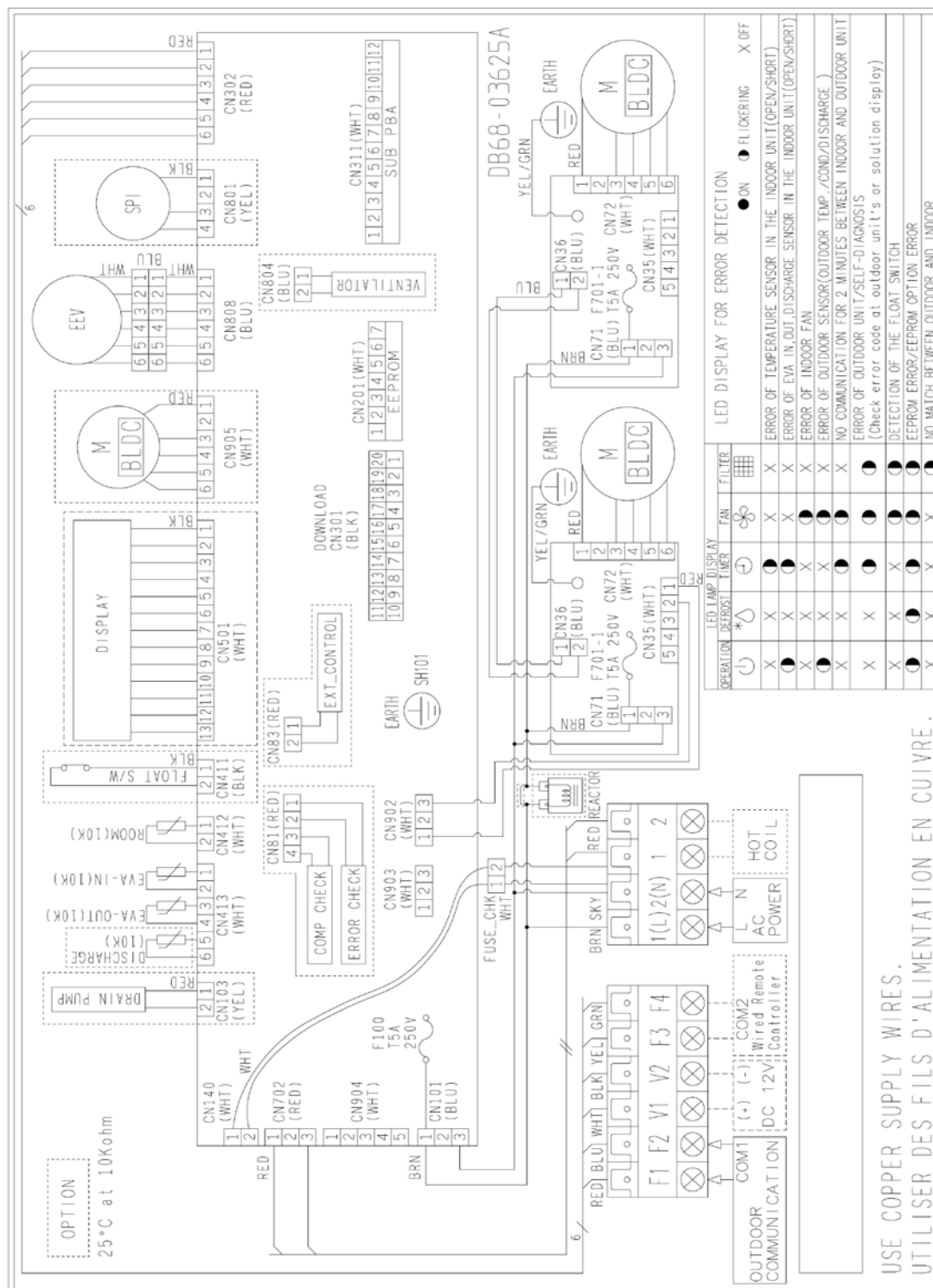
| <b>National Difference of Australia (AU)</b><br><b>AS/NZS 60335.1:2002 corresponding to IEC 60335-1:2002; am1; am2</b> |  |   |         |
|--|--|---|---------|
| Clause   | Requirement – Test   | Result  | Verdict |
| 24.1   | Before Note 1, insert the following variation.<br>NOTE 201 The relevant IEC standard may be replaced with the relevant Australia/New Zealand standard where applicable.  |   | —       |
| 24.1.7   | Add the following variation to the test specification:<br>In Australia, telecommunication interface circuitry must comply with the Telecom Labelling Notice issued under the Telecommunications Act instead of IEC 62151.  | No telecommunication network operation.   | N/A     |
|  | NOTE 201 The Telecommunications Act is administered by the Australian Communications and Media Authority.  |   | N/A     |
| 25.1   | After the requirement insert the following variation.<br>Supply cords for single-phase portable appliances intended for direct connection to the supply mains, shall be fitted with an appropriate plug complying with AS/NZS 3112.  | Fixed/ Stationary appliance.  | N/A     |
| Table 11   | Replace footnote a with the following variation:<br><sup>a</sup> These cords may only be used if their length does not exceed 2 m between the point where the cord or cord guard enters the appliance and the entry to the plug. However, they cannot be used in class I appliances. | Class I appliance,<br>And it shall be provided with supply cord/ interconnection cord exceeding 2m. | N/A     |
| Note)<br>This national deviation was declared by IECEE Member NCB: SAI-Global,<br>Last modification: 2010-04-19        |  |   |         |

IEC60335\_2\_40F – ATTACHMENT 3

**ATTACHMENT TO TEST REPORT IEC 60335-2-40**  
**Schematic wiring diagram/ Circuit diagram**

Attachment: Schematic wiring diagram (Indoor unit)

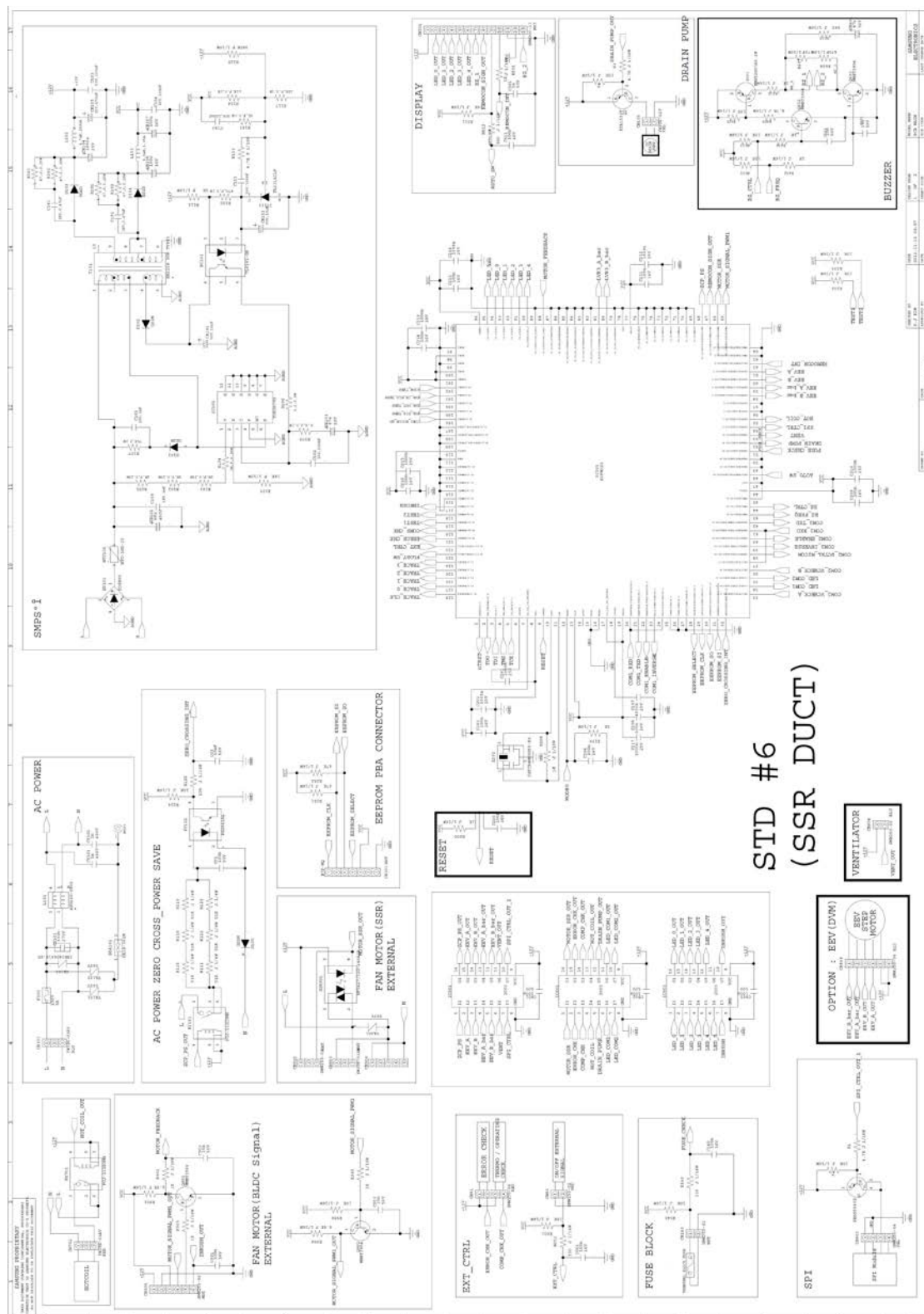
1 / 3



USE COPPER SUPPLY WIRES.  
UTILISER DES FILS D'ALIMENTATION EN CUIVRE.

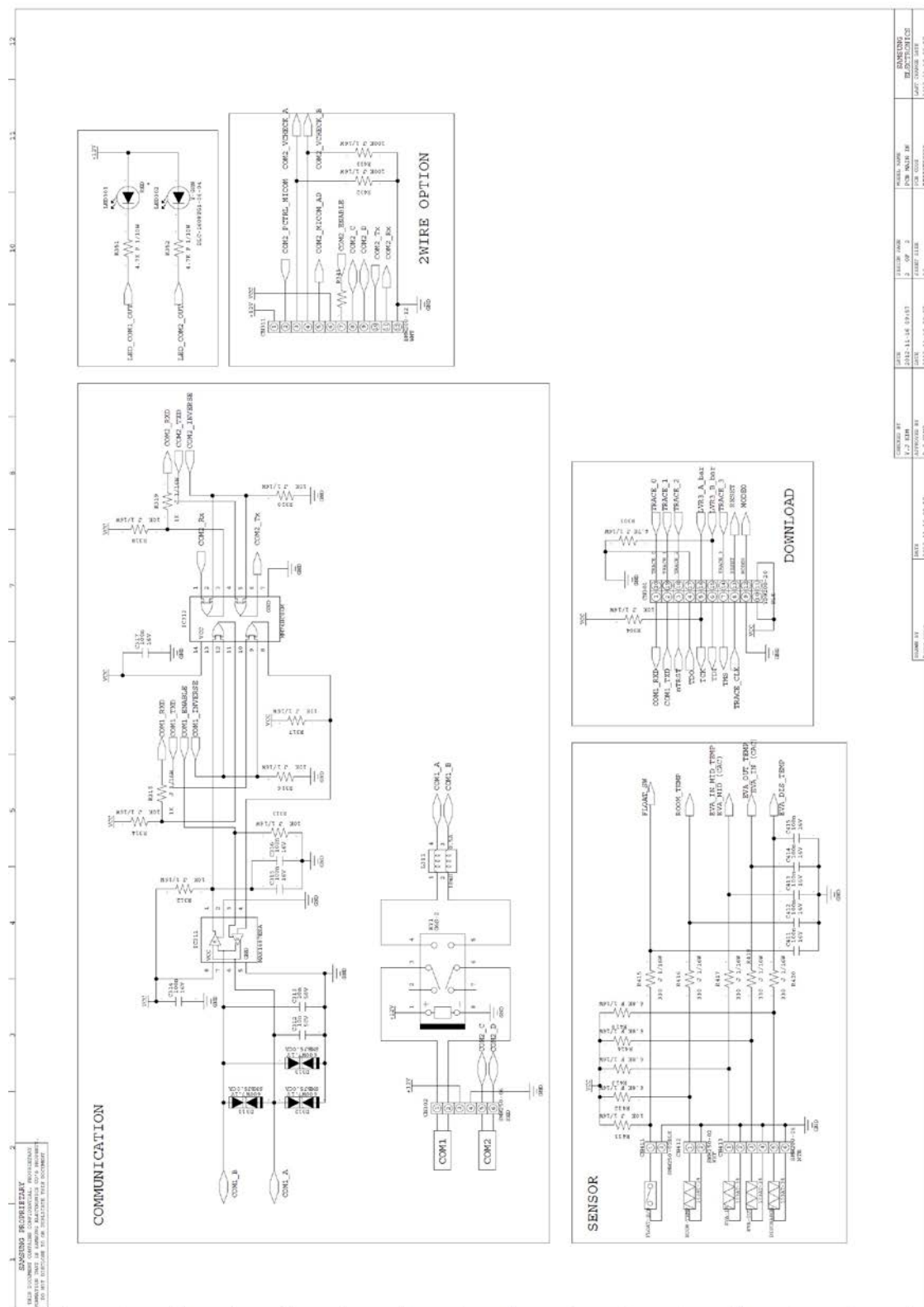
Attachment: PCB circuit diagram (Indoor unit)

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Attachment: PCB circuit diagram (Indoor unit)

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| CHECKED BY | SAMPLE NAME         | MODEL NAME  | SAMPLING INFORMATION |
|------------|---------------------|-------------|----------------------|
| EK-07698   | 2012-11-14-10:19 AM | PCE PNLB 1R | LAMP CHANGE DATE     |
| EK-07698   | 2012-11-14-10:19 AM | PCE PNLB 1R | LAMP CHANGE DATE     |



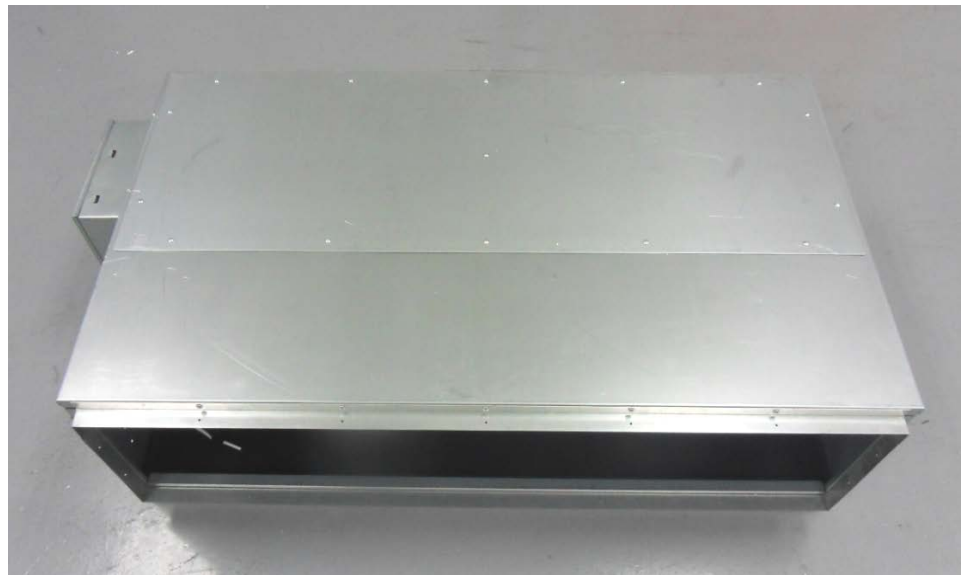
IEC60335\_2\_40F – ATTACHMENT 4

**ATTACHMENT TO TEST REPORT IEC 60335-2-40**  
**Photos of appliance**

## IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit)

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## IEC60335\_2\_40F – ATTACHMENT 4

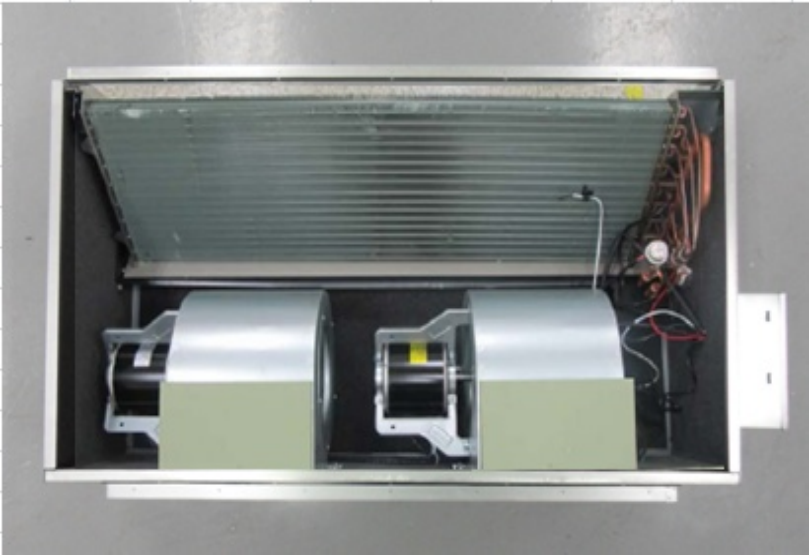
Attachment: Photos (Indoor unit)

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IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit) 3 / 7

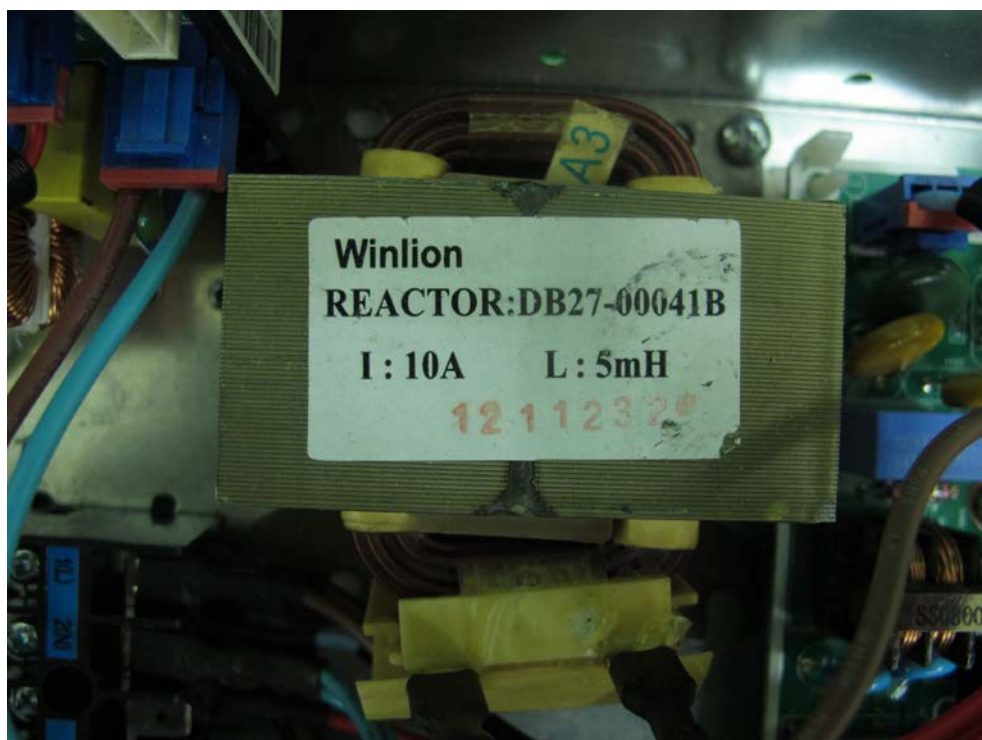


(Brushless DC type of fan motor, which has no auxiliary capacitors)

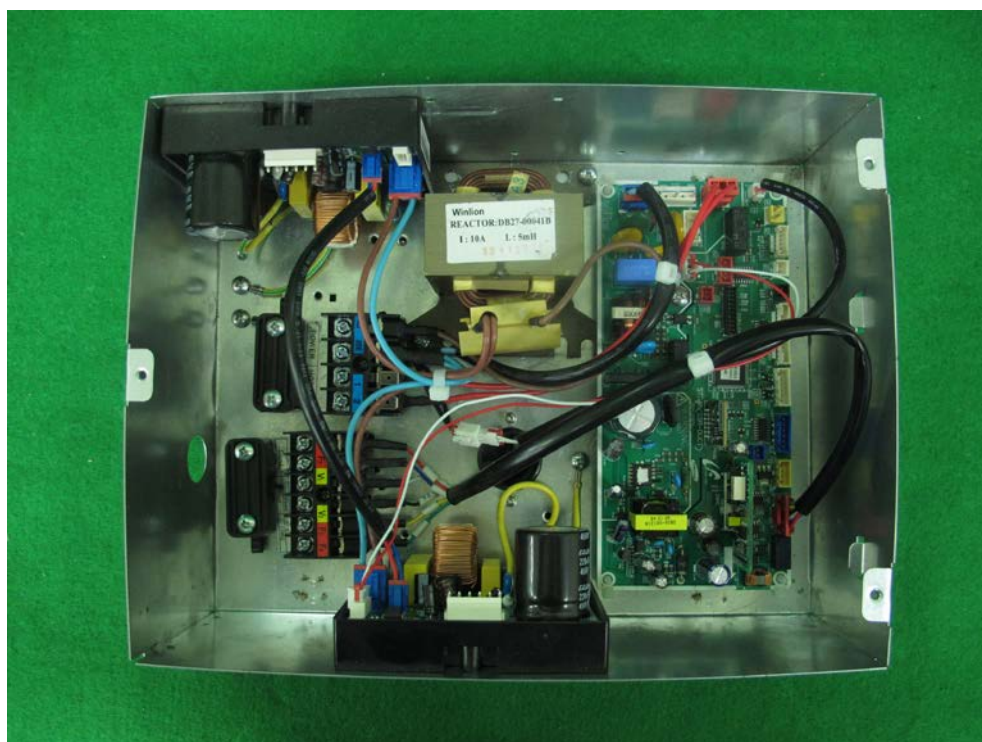
## IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit)

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(Reactor)

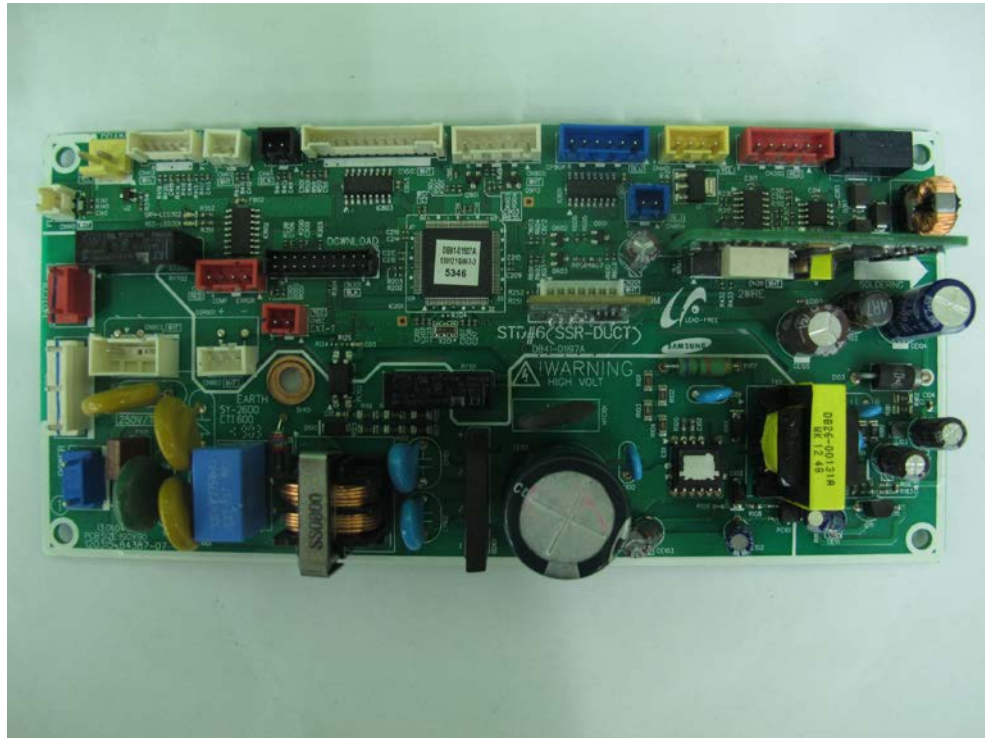




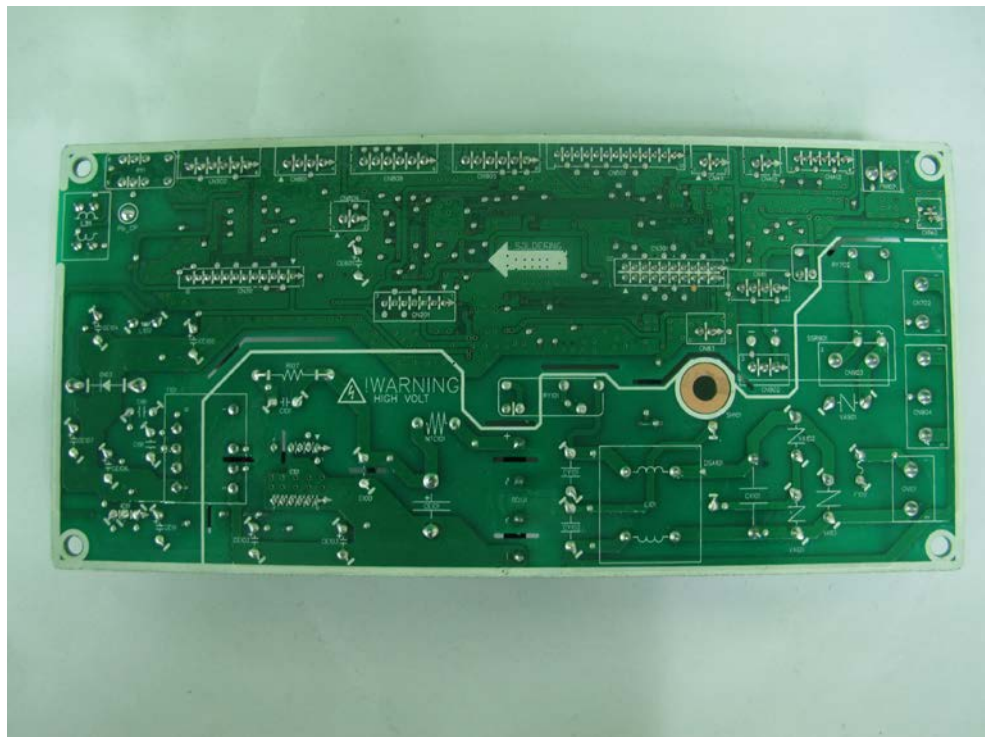
## IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit)

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(Top view of Main PCB, components mounted side)

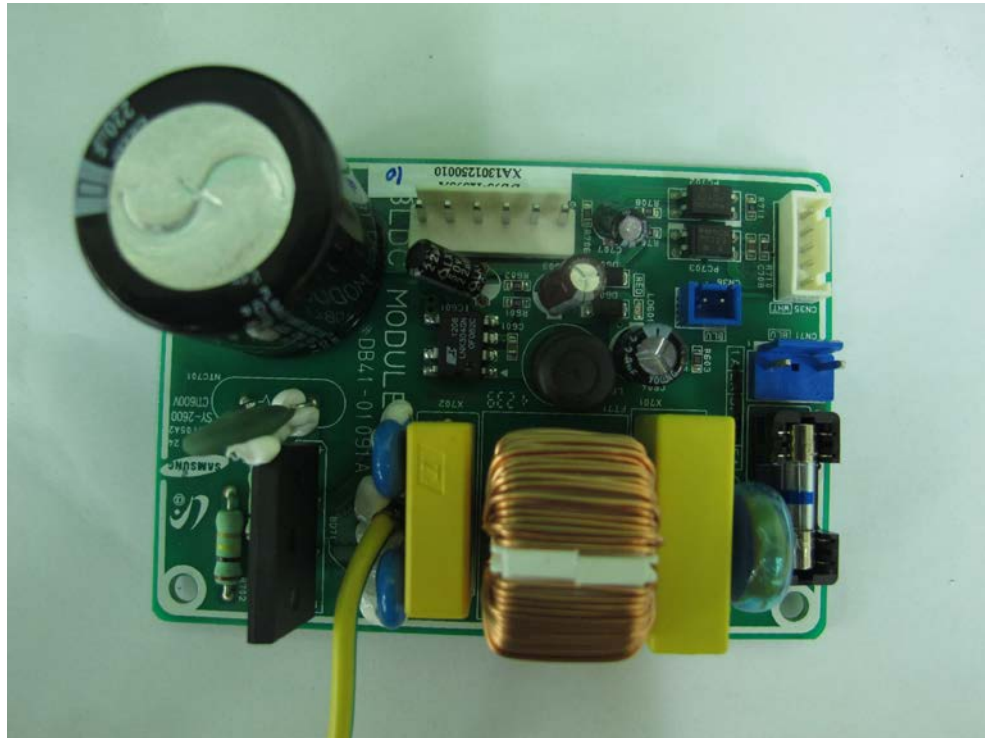


(Bottom view of Main PCB, lead-free soldered side)

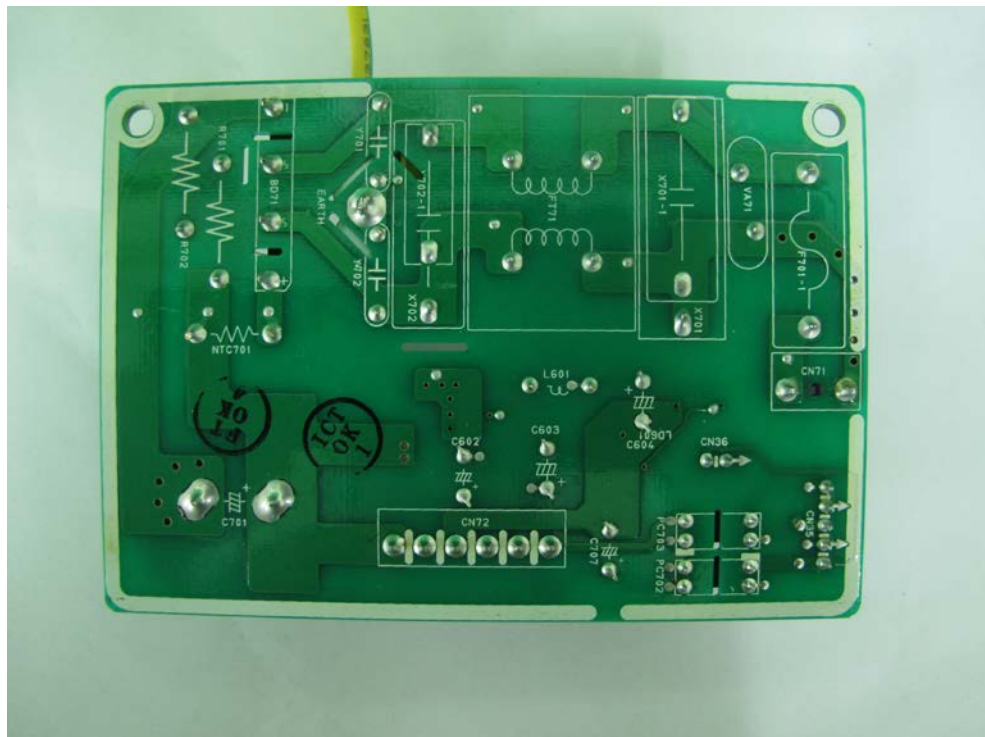
## IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit)

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(Top view of BLDC PCB, components mounted side)



(Bottom view of BLDC PCB, lead-free soldered side)



## IEC60335\_2\_40F – ATTACHMENT 4

Attachment: Photos (Indoor unit)

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(Drain pump, optional)



(Drain pump, optional)